Room Plants.

THE present is an appropriate time to say a few words about growing plants in rooms. There are many persons without the convenience of a greenhouse, but in whom the love of plants is so strong that they will not be without them during the winter, even though they have to grow them in a garret window; and it is a happy circumstance that they can do so. We never pass a window in winter, with its few Scarlet Geraniums, and perhaps a pot of Mignonnette, etc., without thinking that there dwells within that house a soul full of the aspirations of a better life; and we can well imagine how many lonely moments have been lightened by the presence of these silent yet cheerful companions: the light and sunshine so essential to their own well-being they impart freely to those who care for them. There is a striking resemblance, in many respects, between woman and flowers, more especially in the modesty, loveliness, and sweetness which we are all willing to concede to both; and we should naturally expect to find, and do find as a general thing, that women have a nicer and more refined appreciation of flowers, than men. Her organization, more delicate than that of man, intellectually and physically, fits her better to discriminate the finer shades of beauty. It should, therefore, excite no surprise to find among women the most constant lovers of flowers. Probably two thirds of the flowers found in rooms are grown by women, and the number might be greatly increased with a corresponding diminution of that unnatural craving for excitement now quite too common. We know of nothing better calculated to beget home attachments than the love and culture of flowers.

We should be glad to do or say something to increase the number of those who grow room plants. It is true that plants can not be as well grown in rooms as in a well-constructed greenhouse; but, notwithstanding, there are some kinds that may be grown and flowered in a manner quite satisfactory, and with results highly gratifying. Certain conditions are necessary for the best success, and these it is our object to point out. The greatest obstacle to success is the dryness of the air: this may in a measure be overcome by a table suitably constructed, and the selection of plants best adapted to a dry atmosphere. The table should be the length of the window, and two or three feet wide, the boards being tongued and grooved. Around the edge nail a strip three inches wide, making the corners fit tight. The table is then to be filled with two inches of clean white sand. With a table of this kind, the foliage of the plants can be frequently syringed or sprinkled with water, which keeps them clean and promotes their health; the drippings and surplus water are caught and absorbed by the sand, and the floor of the room is thus kept clean; the sand, indeed, ought to be kept constantly wet, and even watered for this purpose, if necessary. The evaporation from the sand will diffuse itself among the plants and through the room, and thus overcome, in a small degree, one of the chief obstacles to the successful culture of plants in rooms. The table should be fitted with rollers, to facilitate the operation

of watering and cleaning the plants, and also for the purpose of moving it back from the window during very cold nights. The flower-stands in common use are altogether unfit for a room; the surplus water, dead leaves, etc., fall to the floor, injuring the carpet, and giving the room an untidy appearance. The table above described is free from these objections, besides having positive advantages for the successful growth of plants which no ordinary flower-stand can possess.

All rooms do not possess equal advantages for growing plants. A room with large, high windows, looking to the south, is the best; the next best is one with a southeast or southwest exposure; next, east; next, west; and the least desirable of all, one looking to any point north. A large bay window with a southern exposure possesses many advantages for growing plants, quite equal in many cases, and superior in some, to those structures absurdly called "plant cabinets," unless the latter be intended for the preservation of dried specimens, the only purpose for which most of them are fit. A basement window with a southern exposure will sometimes answer tolerably well, but a room in the upper part of the house is always to be preferred. Having secured a table and selected a room, the next thing in order will be a collection of plants; and here we would drop a caution against accumulating too large a number. Plants can not be well grown any where, or under any circumstances, when crowded together; it is always more satisfactory to grow a few well than to grow many indifferently. In making a list, we name only those which we know to succeed well in rooms, and which are least impatient of neglect and changes in temperature. From our list of annuals given last month may be selected *Schizanthus*, *Lobelia*, *Alyssum*, *Mignonnette*, *Mathiola*, and *Ageratum*. Of perennials a good selection may be made from the following, taking them somewhat in the order in which they are named: Geranium, (scarlet and sweet-scented,) Primula sinensis, Azalea, Epiphyllums, (indeed, the whole Cacti family,) Spiræa Reevesiana and prunifolia, Roses, (such as Hermosa, Agrippina, Fragoeletta, &c.,) Heliotrope, Laurustinus, Bulbs, (such as Hyacinths, Narcissus, Crocus, Ixias, Babianas, &c.,) Calla, Oranges, Lemons, Deutzia gracilis, Weigela rosea, Coronilla, Petunias, Cypripedium insignis, Hoya, (or Wax-plant,) Verbenas, Stevia, Daphne, Carnations, Cape Jasmine, Pittosporum, Salvias, Passiflora, Bouvardia, Fuchsia. We do not recommend the young amateur to make so large a selection, unless several windows are fitted for the purpose of plant-growing, or unless the selection is confined mostly to one plant of a kind. A good selection for a beginner would be a few pots of Alyssum, Mignonnette, Lobelia, Geranium, Primula, Azalea, Calla, Cacti, Coronilla, Heliotrope, Spiræa, Orange, Lemon, Petunia, and some bulbs. It is better to begin in a small way with a few kinds easily grown, and to increase the number and variety as experience and skill are acquired.

We can not, of course, within the limits of a single article, give directions for the cultivation of the plants we have named; we can only add a few brief remarks on their general treatment. One of the most important things to be attended to is watering; the plants should not be allowed to wilt for want of water, but they should not be watered till the surface of the pot becomes dry, and then enough should be given to go entirely through the ball of earth. The plants should be frequently syringed or sprinkled overhead, and kept clean, and free from dead leaves. Extreme changes of temperature should be avoided as much as possible; a moderately low temperature is to

be preferred in a room to a high one ; since, in the absence of a strong and diffused light, too much warmth will cause the plants to grow weak. If the windows have curtains, they should be kept up or drawn aside, and all the sun and light possible admitted to the plants at all times during the day. When the weather is mild, the window may be thrown up for a while, or the top sash lowered a little. During very cold nights the table may be moved to the middle of the room ; and if the plants should unfortunately get frozen, darken the room and throw *cold* water over them repeatedly till the frost is drawn out, and then expose them gradually to the light. In this way we have saved plants when the ball of earth has been frozen as hard as a brick. Room plants should not be brought into the house till the nights get frosty, and while out of doors they should have a sunny exposure. Insects should be looked after, and destroyed on their first appearance ; a little attention in this way will keep them free from such pests.

It has been objected by some that it is unhealthy to keep plants in rooms ; but their arguments lack coherence and force, and we are compelled to record our experience against the position. We believe them, on the contrary, to be conducive to health, not only by their soothing and cheerful influence on the mind, but as purifiers of the air, so that all may indulge their tastes without the least apprehension of injury to their health. We have no room for an argument here, but we believe that every vegetable physiologist will sustain our position ; if he will not, then, in our opinion, he has something to learn. We commend room-plants to all who have a room in which to grow them, and especially to the ladies, who are necessarily much confined to the house : they will cheer many a lonely hour, and afford balm to many a wounded heart. The world can not seem utterly a blank while the love of flowers is left to console us.

EXPERIENCE *versus* THEORY.

BY FOX MEADOW.

When our attention is attracted to the pages of the Horticulturist, it is either from a love of knowing how the beautiful things in Nature burst spontaneously into existence, or fostered forward by the scientific hand of man, or the construction and execution of his mechanical powers. In either case it is pleasing and interesting. But it very often occurs that we turn to those pages for something that materially affects our own individual interests. Perhaps the cultivation of some very delicate and choice fruit ; the formation of a vine border on or over a peculiar subsoil ; the mode of pruning or training requisite to insure fruit from certain species of trees, or the best design for some horticultural building. Whatever the subject may be that directly affects our personal interest, we anxiously and gladly receive it, depending solely upon the efficiency, practical working, utility, adaptability for an intended purpose, as set forth by the author, whoever he may be, taking it for granted that the subject he introduces to the public is his own individual experience, *the result of practice worked out of time.* This is what we mean by "Experience," and what all who talk about experience should mean.

For instance, take a man who has been working all his life in a culinary garden, (and we will allow him to have a good deal of natural ingenuity;) ask him to design for you a mansion, adequate to the requirements of your large family, and tell him the house must combine elegance in the architectural design, convenience, ample room, and for a certain specified sum of money it must be built. We do not deny the impossibility of his giving you a very pretty plan; but suppose we put this pretty plan in the hands of one of our every day designing architects, would he not at once say within himself, This has been got up by a novice? This man can design, but he has had no experience in this matter; has never been accustomed to *live* in a house of this description, or he certainly never would have made so many gross mistakes.

In the April number of the HORTICULTURIST, page 170, we have a perfect *fac simile* of the above. Here we have a "Design for a range of Grape-Houses," by Mr. John B. Eaton, Buffalo. With all due respect to that gentleman, we feel it our bounden duty to point out to the readers of the HORTICULTURIST what we consider to be, in our humble opinion, grave mistakes.

The plan is shown in the HORTICULTURIST, combining a range of four houses twenty feet wide, with the total length of the four measuring one hundred and eighty feet. Mr. Eaton's motive in designing this range with four wings combined, we have no particular objection to; still to *commercial growers*, who, from necessity, ought to obtain the very perfection of fruit, I should by no means recommend it; for we invariably find in all houses erected on the curvilinear principle, that the vines and fruit are better on one side of the house than on the other; and this is owing to the direct action of light or the sun's rays. You will also find that where curvilinear houses run east and west, the vines will start into growth on the south side long before those on the north, for the simple reason that the border on the north is often frozen up when the south border is warm and vegetating. Again, the foliage of the vines on the south side of the house so much shades those on the opposite side, that it is scarcely ever the wood of the latter gets properly ripened; indeed, I may safely say, never. The cardinal error, however, is in the arrangement of the crops, or rather forcing the crops. Here we have the house marked *A* with the greatest number of feet of pipe in, and designed as the *first* forcing-house, placed completely *north*, where it is subject to all the cold, perishing winds, without any protection whatever, and even the boiler and entrance to it with the same objections. I should have thought that a man having any experience on this subject—that had ever forced grapes, *even one year*, in such a design as this—would have had the house marked *B* the first forcing-house, and *A* the retarding-house. Certainly you could retard your vines better in a house where the glass faces east and west, than in that of *D*, where it faces the south. Another point is gained if *B* is made the first early, which is a considerable item in forcing; that is, the screen or protection the other three houses provide. It will make a considerable difference in a heap of coals whether the forcing-house stands at the north or the south in this design. It strikes me very forcibly, that in trying to force the house marked *A*, the winds from the north would blow out all the heat you could make from that flow and return pipe, just a *little* faster than you could make it under the boiler.

Glass all round the house, Mr. Eaton, makes a very poor forcing-house. In our simple opinion, there is nothing that will beat the *old lean-to;* and

if you think it is requisite, or they can not be built only in short lengths, and each to have a separate fire, you will find that at least around New York it is not so; for we have houses three hundred feet long, with six rows of pipe, which are heated with *one boiler*. It is a very poor boiler (so considered now in New York) that will not thoroughly heat the water in a thousand feet of pipe. One that will heat four or five hundred feet can be picked up almost any where, and bought as old iron. I honestly believe there are no better boilers in the world than are manufactured in New York. And yet, our country cousins in Philadelphia could scarcely muster a dozen common boilers in their whole city, if we were to go and hunt them up to-day. I suppose the reason is, they don't see the HORTICULTURIST.

Mr. Eaton, speaking in reference to the propriety of placing span-roofed houses at *C* and *D* in his plan, says, "It may be thought by some greatly out of rule, but I am satisfied that their many advantages more than counterbalance the partial deprivation of sun which the vines on the northerly sides would experience, and which would be somewhat greater than in a lean-to house of less width." We would much like to know what these *many advantages are* to the *commercial man*, for whom this design is intended.

Mr. Eaton goes on to say, "If it be desirable that the time of ripening should be nearly equalized through the whole house, it is not difficult to select earlier sorts for the northerly sides, which will naturally be retarded until their maturity nearly corresponds with those in front; but I do not consider it a disadvantage to have the season of each sort prolonged by the different exposures, and think it quite feasible, by a judicious selection of varieties, to cause the north and south sides of those two houses to furnish as regular a succession of each sort, as if they were grown in distinct apartments." This is strange advice to give a man who is going to grow grapes for market; and if I were to act upon such advice, after waiting for three or four years for my crop of grapes, *the test of this experiment would unquestionably be my ruin.* Now, to settle the whole question on this point at once, there are only two varieties of grapes that are worth the *commercial man's attention!* I say it emphatically, *there are only two kinds of grapes that will pay him to take to market*, and these must be in *number one condition.* The two varieties I have reference to are Hamburghs and Muscats. All the early varieties Mr. Eaton has reference to, such as all the Chasselas and Frontignan class, with the whole host of other names, for a *commercial man* to plant, would be almost as bad as taking money out of his pocket and throwing it into Lake Erie, at Buffalo. At a time this spring when Hamburghs were selling in New York, Boston, and Philadelphia for a dollar and fifty cents per pound *wholesale*, the Chasselas varieties sold for about *sixty cents!* The man who intends to get his living by growing and selling grapes, must realize a given number of pounds' weight from every vine, and each pound must bring him a certain price in order to pay expenses and realize an interest on his capital invested. One half the stories told about grape-growing, and grape *paying*, are nothing more than *fairy tales*, fit only to be told by those who have no respect for truth.

For a private gentleman's establishment, who may be pleased with a toy, and may require a number of varieties, in order to tell his friends how many sorts he grows, and who is better able to pay for experimenting, whims, and hobbies than the man who is necessitated to make a living of it, we have no particular objection to this "*cross-stick*" plan of John B. Eaton, Esq.

[Fox Meadow is a veteran grape-grower, and whatever he says on this subject will have its weight. His objections to Mr. Eaton's plan of forcing (at least so far as the latter may be intended for commercial men) would seem to be well taken. Mr. Eaton, however, may have something to say in defence of his plan. Where grapes are to be grown for profit, *economy* must be studied at all points; and this should be borne in mind in discussing the subject. It is now attracting so much attention, that a good deal more may be said profitably.—Ed.]

WHAT AND WHERE, FOR EIGHT MONTHS IN THE YEAR, IS THE PLUM CURCULIO?

BY TERAGRAM, NEW HARMONY, IND.

I suppose you were present at the meeting of the American Institute Farmer's Club, New York, July 16, when Mr. Solon Robinson severely castigated an inquirer at Dobbs's Ferry, for ignorance regarding the curculio. I think the inquirer excusable; for I read statements made to the club, without contradiction, that seem to display quite as much ignorance. Very many statements put forth by practical men in the club, and elsewhere, are calculated to create the perplexity experienced by the inquirer at Dobbs's Ferry.

Not long since the discussion in the Farmer's Club, as to "where the curculio goes when it is not in the plum," made me wonder if any of the members ever read an entomological book. Many practical men have told us to tie cloths around the trunks of our trees, to prevent the attacks of the curculio: some have said, "tie three cloths, and you will find the curculios in the lowest cloth; you may find some in the second, but you will not find any in the top cloth." Is not this calculated to make people believe that the creature merely *crawls*, and can not get over the top barrier? I know that this curculio, like many other insects, hides from the light of day, and that a cloth close by saves it the trouble of hiding in the earth or in crevices. I place cloths in the crotches of my trees, look into them every morning, and I catch not only many curculios, but many other enemies also.

As the "pea-bug" is a curculio, (differing a little in size, shape, and color from the plum curculio,) and its history is open to every one's examination, it may best explain, by comparison, what the plum curculio is, and what it is doing when not in our plums. I suppose that all interested know the "pea-bug;" well, the females of these small insects lay their eggs in the pea blossoms, so that the grubs hatched from these eggs are in the peas; there they feed until they have grown their full size, which is at about the time when the peas are ripe. Open a pea then, and you will find a grub; open another pea, of the same crop, a little later, and you will find, not a grub, but a soft, pulpy, light-colored insect, of quite a different form, "a bug" in shape, though probably deficient of wings and wing-cases; it has then done feeding. Open another pea, of the same crop, at a still later period, and you will find the perfect "pea-bug," dark-colored, with horny wing-cases, and, underneath these, the wings with which it flies. Just such a change is undergone by the plum curculio.

A large variety of insects, when they have done feeding, which is when

they have attained their full *grub* size, go into the earth, or remain in the earth, (if that be their feeding place;) there they abide in a state of apparent torpor, while the change which converts them to the perfect insect goes on. They will remain in that state for many months.

We find that the "pea-bug," though it has done feeding in June, remains in the pea until March or April. Some precocious bugs escape before we pack up our peas, but this is not the rule.

The plum curculio lays its eggs in the young fruit; they produce grubs, which feed until fully grown, at about which time the plum drops to the ground, or the grub drops; the grub enters the earth, and there goes through its necessitated changes, and, as a general rule, remains in the earth until the next spring, when plums and cherries are ready to receive its fatal mark. The creature is kept in the earth, first, by the time required to perfect its form and strength, and next, by uncongenial weather.

Of some kinds of insects there are several generations in the year; there may be sometimes an exceptional second brood of the pea and plum curculios; but I believe that such, even if they deposit eggs, will not have descendants to inherit their ill fame.

I find a conjecture in a "Patent Office Report," that the pea curculio may, when it can not escape from where the peas are confined, in sacks, &c., return to its pea to feed; but the pea is not the food of the perfect insect; it, like a large number of its near relations, and like, perhaps, the greater number of insects of other orders, remains without feeding for the longest portion of its existence. When peas are left on the ground, it is reasonable to believe that the mature curculio, finding too few things congenial to it above ground at that season, retires to the earth, until blossoms and pairing time give it food and occupation.

[We are obliged to "Teragram" for her clear and common sense remarks on the curculio. We were present on the occasion alluded to, and thought the rebuke quite too severe. Why should we deal so hardly with the seeker for truth, and pass over in silence equally culpable ignorance in professedly scientific men? We would at all times rather say a word of encouragement than dampen enthusiasm by too harsh a censure. It seems that the individual alluded to was only just entering upon the pursuit of fruit-growing, and his inquiries should not have caused more surprise than the assertion recently made by a learned entomologist, who has made the curculio a special study, that "but one slit is made upon a fruit;" for it is no uncommon thing to see two or more. One thing is certain—the curculio is a winged insect; hence tying "cloths" and "tin pans" around the body of the tree will do no more good than attaching them to any other part of the tree. In all such cases they are useful to the extent and in the way described by Teragram, and in no other. There have been many different modes proposed for destroying the curculio, and these have been applied with more or less success; but we can entertain little hope of the extirpation of the curculio evil until remedies shall be persistently applied as *preventives* and not as *cures*. In regard to the "pea-bug," the number is increasing every year. We have observed the changes noted by Teragram, and have been the innocent means of destroying the "taste" of some of our friends for peas; they will not eat them, except the first pickings of an early crop, on account of the "grub." From what we have seen of the curculio, we are led to believe, that on dropping it seeks refuge in the ground, where it under-

goes its changes, and in a few weeks comes forth a perfect insect; during the winter it remains torpid, seeking shelter wherever it can find it. Professor Fitch, we understand, claims to have lately discovered an ichneumon which destroys the curculio. We hope this is true, but can not understand how an *ichneumon* can accomplish so desirable a consummation in the case of the curculio. We have the curculio at this moment in all the stages of its transformation, from the pupa to the winged insect, all alive. We shall continue our investigations with the hope of being able, hereafter, to throw some new light on the subject. Since the above was written, we have had a call from Dr. Timble, who has also been very attentive to the "little Turk," with results similar to our own. He has promised us an account of his investigations when completed, which will prove to be very interesting.—Ed.]

WINE AND TEMPERANCE.

BY X.

I am glad to observe that this subject is likely to receive some consideration from horticulturists. All I ask is, that the truth may be met, and duly weighed. So far, we have had nearly every thing on one side. The use of wine, as a remedy for intemperance, has been recommended by many prominent cultivators and most of the agricultural and horticultural papers, while scarcely one has uttered a sentence by way of objection. At one of the sessions of the American Pomological Society, a member delivered a stirring eulogy on the manufacture of American wine, with a strong recommendation of its general use, to which the worthy President responded with an emphatic "Amen!" and several other remarks were made of a similar tendency, no one objecting to the course of the discussion; but as soon as adverse remarks were made, members sprung to their feet, with the exclamation, "We must not allow this discussion, it is out of place here!" and it was immediately stopped. Perhaps the only mistake was in beginning it. All that is asked for at present is fair play. The eulogists for wine-drinking have had it very much their own way; possibly because those with different views have not voluntarily spoken. If so, some of us will endeavor to make amends.

I differ a little from the author of the communication in the last number of the Horticulturist. He quotes from the Sacred Scriptures—alludes to the injunction of Paul to Timothy, to "use a little wine for thy stomach's sake, and thine often infirmities." Now we must be candid and fair, and look at the circumstances. Timothy was ill, but still he used only "water"—would not drink even a "little" wine, and that for medicine, until it was urged upon him by an inspired apostle. If none of us go further than this, we shall never consume it very largely. Why are the results of wine sometimes denounced in Scripture, as "woe, sorrow, babblings, wounds without cause, and redness of eyes," and we are cautioned not even to "*look upon it* when it is red, when it moveth itself aright," (ferments or sparkles,) and in other places it is commended? Doubtless there was more than one kind, the alcoholic and the non-alcoholic. It is so at the East at the present day, as I am informed. But whether so or not, one thing is certain, that the evils of intemperance have been so greatly increased by means of distillation, that wine, that so often leads the way and prepares the appetite for stronger spirits, is far more dangerous now than at an early period of the world's history.

I did not intend to have said much on the connection of the Scriptures with this subject, but I hope to be excused for mentioning one other injunction, of universal application to all practices which indirectly injure others. "Wherefore, if *meat* make my brother to offend, I will eat no flesh while the world standeth, lest I make my brother to offend;" or, applied more particularly, "If wine-drinking leads one brother in a hundred to be a drunkard, I will drink no wine while the world standeth, lest an example might lead my brother to this dreadful practice."

Now, to come to wine-drinking France. We have two kinds of testimony from those who have visited that country. The witnesses are those who saw the evil, and those who did not. Now, in all candor, are not the latter class like the Hibernian, who denied, in court, having stolen the axe? "But," says the judge, "here are two witnesses that say they saw you take it." "Viry will," said the prisoner, "an' I can bring twinty witnesses that didn't see me take it."

According to recent testimony on the subject before Parliament, the wine usually sold contains 10 to 40 per cent. alcohol. Brande, in 1813, found "raisin wine" to contain 26 per cent.; port, 25 per cent.; sherry, 19 per cent.; Madeira, 22, and claret, 17 per cent. of alcohol. Now, I ask how such drinks as these can be used as a *common beverage, to prevent intemperance?* Is it possible for everybody to drink daily of such large portions of alcohol, without many acquiring a strong appetite for it? The thing is impossible! We might as well propose to set fire daily to some of our dwellings in the city, in order to prevent a conflagration. According to Brande, brandy, rum, and Irish whisky, contain each 53 per cent. of alcohol, and gin 51 per cent. Can any one inform me in what way it will be safer to drink two pints of port wine, containing over two gills of pure alcohol, or one pint of Irish whisky, or brandy, also containing two gills of pure alcohol? I can not split hairs with sufficient skill to point out the difference.

Knowing these facts, I should not wish, for my own convincement, to bear testimony whether a people can drink wine as a common beverage, and remain a temperate people. The cause must have its effect, as sure as water will run down a hill; and, if facts are only investigated thoroughly, not superficially, no other results, it appears to me, can possibly be reached than those startling ones mentioned in the last number of the HORTICULTURIST. Allow me to add a few, which I derive from a recent letter of a distinguished American gentleman, who is not regarded by many of his friends as very ultra on the temperance question. He says that, when recently in Paris, a wine-merchant directed him to one of the many hidden places where he could see the effects of wine-drinking. The following is his description:

"At the lowest, five hundred persons had already assembled, and the people were flocking there in droves; men, women, and children, whole families, young girls alone, boys alone, taking their seats at tables; a mother with an infant in her arms came reeling up to one of the tables.

"It was an immense establishment, occupying three sides of a square, and rapidly filling with wine votaries. I saw hundreds in a state of intoxication, to a greater or less degree. All, or nearly all, had wine before them. This place was considered a rather respectable wine-shop. My guide then took me to another establishment, not ten minutes' ride from the emperor's palace. The scene here beggars description. I found myself in a narrow lane, filled with men and women of the lowest grade. * * * *

I then entered into the outer room of the establishment, which was full of the most degraded human beings I ever beheld, drinking wine, and talking in loud voices. The cabman informed me he had often seen here eighty to one hundred and fifty lying drunk at a time. *They remained there till the fumes passed off; for, if found drunk in the streets, the police took them in charge.* I was told there were hundreds of such places in Paris. I am convinced that the emperor has more to fear from the wine-shops than all other sources united. They furnish the material for riot and revolution, and the wine drank in them is the stimulant to every vice. Americans and others visiting the fashionable walks of Paris and other continental cities, seeing but few staggering men in the streets, honestly suppose that wine countries are, in a great measure, free from the vice of intemperance; but it is a great mistake."

RUSTIC ARBOR.

DESIGNS IN RURAL ARCHITECTURE.—No. 5.—RURAL OUT-BUILDINGS.

BY GEO. E. HARNEY, LYNN, MASS.

THERE is nothing which serves so well to give an air of finish to a country place—be it large or small—as the introduction here and there, wherever a suitable place offers itself—either in some sly, out-of-the-way corner, or at the termination of a long footpath—of cozy, vine-embowered summer-houses and inviting rustic seats; of pleasant observatories wherever a good view

may be had; rustic play-houses for the children, and ornamental flower-vases. In fact, any sort of rustic structure is a pleasing addition to the grounds, especially if fragrant with overrunning vines, and half hid among trees and shrubbery.

The designs which we offer at this time are specimens of this class of buildings, and comprise views of two summer-houses, an observatory, and a pump or well-house.

No. 1 is a Rustic Arbor, to be built of rough, untrimmed sticks of white oak or red cedar. The principal sticks should be selected from three to four inches in diameter, and as nearly straight as possible; these are to be used for posts, plates, girders, and principal rafters. The rest, forming the ornamental work, may be from half an inch to two inches in diameter. The roof

OCTAGON SUMMER-HOUSE.

is to be covered with bark, put on in the overlap manner, the same as shingles. Seats are built around the inside, and a table in the centre, all of the same stock.

No. 2 is an octagon Summer-House, requiring more of the carpenter's skill in its construction than No. 1. The roof curves up as shown in the view, and is covered with ornamental shingles. One of the sides of the octagon forms the entrance; the rest are fitted with blinds, which rise and fall by means of pulleys, forming by this means either a close or an open arbor. It has a seat around the inside like No. 1, and a couple of movable tables.

NOTES UPON THE HOLLYHOCK, WITH A DESCRIPTIVE LIST.

BY DANIEL BARKER,

Gardener to B. K. Bliss, Springfield, Mass.

For many years there has been a steady progress in the Hollyhock in the form of flower, size, and texture of petals, as well as in color. The great attention which has been devoted to this plant by such eminent florists as Chater, Turner, Paul, and others in England, has been rewarded by the production of such beautiful varieties as leave but little to be desired. The new varieties of the last few years possess much excellence above those of an early date, not only in the form and outline of the flower, but in size and color, and in the length of spike.

Scarcely any flower is more attractive in the flower-garden than well-grown specimens of the improved varieties of Hollyhock; the abundance of their bloom, and the beautiful and brilliant shades of color, combine to render them universal favorites for the decoration of the lawn, shrubbery, and flower-garden. A well-grown plant, of from four to six feet high, when in bloom, presents a blaze of beauty which is not surpassed by any other plant in the garden.

I now propose to enter upon what would doubtless prove both a thankless and invidious task if undertaken in any other than a spirit of integrity and honesty of purpose, viz., the investigation of the claims of a few of the best of upwards of eighty of the finest varieties raised in Europe, and now flowering (August 1st) in magnificent condition at this establishment.

Black Prince—(The best of its class).—Nearly black; a fine, large, and full flower, very attractive.

Brennus.—Rosy crimson; a beautiful large full flower, with good guard petal and excellent spike.

Beauty of Walden.—A beautiful soft rosy pink, with excellent guard petal, spike close, and free habit.

Canary.—Fine light yellow; flower full and very compact; habit good. (New.)

Beauty of Beechwood.—Dark rosy crimson; large, full, and very double; one of the finest varieties yet sent out. (New.)

Comet.—Ruby red; flowers full and very fine.

Duchess of Sutherland.—A beautiful bright rose; a noble flower; spike close and habit free.

Eliza.—Light pink; compact and full.

Eva.—A beautiful flower; delicate peach color; centre fine and very round.

Felicia.—Light amethyst; a large full flower, with broad guard petals; habit excellent.

Figaro.—A beautiful mottled variety; flower very full, and fine spike; close and extra habit.

General Bem.—Fine bright scarlet; flower very large and full; one of the very best of the high-colored varieties.

Hon. Mrs. Ashley.—Rosy carmine; flower large and double; spike very compact.

Lizzy.—Delicate rosy pink; fine form and excellent habit.

Lady Willoughby d'Eresby.—Creamy white; form and substance very fine; an excellent variety.

Lemonade Improved.—A clear bright lemon; a distinct and fine variety; indispensable in a collection.

Mr. Seeley.—Shaded salmon; a very fine flower, with broad guard petals; an excellent variety.

Mrs. Foster.—Soft bright pink; large, full, and very double.

Pourpre de Tyre.—A rich dark purple; a noble and excellent variety.

Pink Perfection.—Clear rosy pink; large full flower, with broad guard petals; a distinct and beautiful variety.

Penelope.—A beautiful deep rose; large, full, and very double.

Magician.—Bright cherry; flowers very full, with good broad guard petal; spike extra fine; a novel and beautiful variety.

Sir Colin Campbell.—Dark red; very large and full; an excellent variety.

Saturn—Bronzy yellow; a fine distinct variety.

Sceptre d'Or.—Golden saffron; medium size, very double; an attractive variety.

[The improved Hollyhock is a noble flower, and should be more commonly grown. We have seen some of the above kinds, and know them to be very beautiful. Mr. Barker's article would have been more complete if he had added a few words on cultivation. Perhaps he will do so yet. New varieties are obtained from seed, and prized kinds are propagated by cuttings and by division of the roots.—ED.]

LANDSCAPE ADORNMENT.—No. III.

BY GEO. E. WOODWARD,

Civil and Landscape Engineer, 29 Broadway, New York.

ORNAMENTAL planting, artistically considered, is a grade of landscape adornment but seldom attempted, but it is one that should receive attention in the present condition of landscape art, an art that is rapidly winning its way to every rural home of taste and refinement. True art, when used in beautifying a country estate, will not consent to an indiscriminate and meaningless jumble of trees and shrubs, but will take advantage of the many varied and striking effects of color, form, light, shadow, aerial and linear perspective, and other appliances of high art, which, with all their combinations, go to make up resources for composition that are inexhaustible.

A group of trees all of the same kind is tame and uninteresting, and no one would plant in this manner, if he understood art. A group is more attractive if variety is a prominent feature; not only variety as regards form, but variety in color, and variety in form of that color. If we study natural scenery, we see no sameness of color; the grass at our feet is a positive green, that in the middle distance is a negative green, and that in the far distance is purple or grey; every advance towards distance from the point of observation neutralizes the positive colors of the foreground. It is an easy matter to separate the colors and sizes of trees, and plant them to produce the same aerial perspective effects shown in nature; that is, to take advan-

tage of the hint nature gives, and plant so that the eye runs off from color to color, and from point to point, until it gets the distant view.

Suppose we wish to plant a vista, and have it end with a distant view of the Hudson: the frame for this little cabinet piece is to be on our own grounds, the view to be seen from only one point, perhaps our library window: in the foreground we plant the tallest and most positively colored trees, warm bright greens; beyond these, approaching each other and diminishing in size, we introduce masses of trees of a negative tone of color, using several species in each mass, then continue with group after group to run down the tones of color, until you terminate with the coldest and most negative, and nature then continues her regular graduations far off to the final distance; the reverse of this has a contrary effect, and, judiciously used, one may widen out and narrow up an estate, and produce many curious effects.

Perfect familiarity with the adaptation, resources, and combinations of color, should be an acquisition of every Landscape Artist, if artistic and beautiful effects are to be produced, and this knowledge of color can be acquired at the easel in the same manner as the landscape painter acquires it. With the rural artist there must cease to be experiments; there must be no guess-work, nothing to be done a second time, and withal a system of economy in his operations, the results of which will illustrate the fact that High Art in landscape operations is not only far more beautiful and satisfactory, but its economy recommends it strongly in advance of any experimental system that has yet been devised.

Groups or masses of trees should be composed of different varieties; we would not, however, select ten varieties, and form every group of these ten, but by combining size, form, color, etc., we increase our resources for variety a thousand fold. He who plants groups with one kind of trees, ends his varieties with the number of different species of trees; but he who introduces form, size, color, light, shadow, relief, aerial perspective, etc., can produce endless and beautiful changes.

A group of a single species of tree lacks art; but bring out the deciduous Cypress in strong relief against the Scotch Pine, and you have an effect that will command attention; then carry the Pine into the distance, and interpolate the colors that graduate between it and the Cypress, and in an artist's hands there is the material for much that is attractive. We advocate bold effects, strong contrasts, strong lights, and heavy shadows, but we want the material for such effects, not the monotony unavoidable by the repetition of a single species of tree and a single color. By a process of this kind, one is enabled to multiply masses, groups, belts, vistas, avenues, etc., ad infinitum, and avoid understandingly any repetition. We are well aware that a distinguished author on landscape gardening advocates the planting of groups, by using single varieties of trees, and for this reason. Eight kinds of trees occupying the same position in eight groups, would produce eight groups exactly alike, while if each group were composed of one of the eight varieties of trees, there would be eight groups entirely different; but there is nothing arbitrary in the form of the group, nor the height, nor color, nor are we confined to any particular number, sizes, shapes, or varieties of trees, but we have an endless variety of conditions that admit of an endless variety of change. Eight notes in music exactly similar yield no variety; the eight notes of the scale produce a never-ending charm.

In the arrangement of groups the principles of aerial perspective can be introduced with fine effect, and each variety or color of tree brought out in strong relief against the one behind it, while at the same time appearance of size and extent is conveyed, which does not really exist.

> "Where to the eye three well-marked distances
> Spread their peculiar coloring, vivid green,
> Warm brown, and black opake the foreground bears
> Conspicuous: sober olive coldly marks
> The second distance; thence the third declines
> In softer blue, or, lessening still, is lost
> In fainted purple. When thy taste is call'd
> To deck a scene where nature's self presents
> All these distinct gradations, then rejoice
> As does the Painter, and like him apply
> Thy colors; plant thou on each separate part
> Its proper foliage."

To illustrate the effects that may be produced by groups, let us study a view up or down the Hudson, or any fine river with projecting headlands; we see the atmospheric changes of color more decided; that is, the eye is not led off imperceptibly from the positive foreground colors to the negative tints of distance, but we skip from one to the other, and in this manner see each headland grow more negative in color as its distance increases. An unpractised or an uneducated eye sees no different tones of the same color in a broad landscape view, but we all know that distant hills, mountains, or shores appear near by or far off in the atmospheric changes that take place between a warm bright yellow sunlight, and a dull grey cloudy morning.

LATE CHERRIES.

BY JOHN B. EATON, BUFFALO.

The cherry season began with me this year on the 14th of June, with the Early Purple Guigne, just a week in advance of the earliest date at which I remember ever to have had ripe cherries. Belle d'Orleans was probably ripe about the same time, but was accidentally overlooked until several days afterwards. In view of the uncommon earliness of the season, the 4th of July, instead of being, as usual, the height of the cherry season, (or even, in some years, the very beginning of it,) became a sort of starting-point from which to reckon late varieties. Those ripening with me after that date were, Morello and Royal Duke, on the 5th; Sweet Montmorency and Sparhawk's Honey, (the latter doubtful,) on the 7th; Flemish, 10th; Tradescant's Black Heart, 12th; Archduke, 14th; Late Duke and Belle Magnifique, 20th. (My Late Duke is undoubtedly Belle Magnifique.)

On the 24th, the following were exhibited before the Buffalo Horticultural Society: Archduke, Buttner's Yellow, Sweet Montmorency, May Duke, and Belle Magnifique, most of them in good preservation; but, except the May Duke, none of the highest quality. This latter sort I esteem the most valuable for all purposes of all that I grow, (over thirty varieties.) It began to ripen this year—as it has also done before—on the 22d of June, and there are some still hanging upon the trees to-day, (July 28th.) Three days since I gathered a small quantity, of which the flavor was exceedingly rich. Its

very peculiar habit of ripening by installments—some branches, or even trees, being a fortnight or more later than others—gives it a longer season than any other sort that I know. We have some trees, indeed, which seem to differ a little in a few particulars from the others, for with the general characteristics of the May Duke, their fruit is usually rather more heart-shaped, a little firmer-fleshed, and slightly later. This I have before mentioned as Late May Duke. I am not quite satisfied yet of its being a distinct sort, but incline to that opinion.

Sweet Montmorency was rather better than last year, very sweet, juicy, and of pretty fair quality, when very ripe, but quite too small to be valuable; with high cultivation, which I did not give it, it may prove of more value. Belle Magnifique is very handsome and large, but entirely too acid to be palatable. Royal Duke pleases me much; it was this season quite large, (larger than May Duke, to which it bears a strong resemblance,) and of a rich, although rather acid, flavor. Of the several other varieties above named, I entertain but a poor opinion, not deeming either of them worth growing.

WILD DELAWARE GRAPES.—NOT HARD TO TAKE.

BY J. B. GARBER, COLUMBIA, PA.

Although a subscriber, and a reader too, of the Horticulturist, for many years, I have rarely intruded on its pages with any of my thoughts, well knowing that others could furnish matter of more interest to its readers. Now, however, as a direct question has been thrust at me, I crave a corner in its valuable pages, to be heard in response.

In the August number, p. 377, your "Buffalonian Reviewer," quoting from p. 524 of last vol., "Delaware grapes found in three different locations in a wild state," says, "This is pretty strong evidence in favor of the American origin of this fine fruit," and asks, "Does the opposing party give it up yet?" No, sir, not quite yet! not until some more *reliable* proof is brought forward of its *wildness*, than has yet appeared. *Were* these grapes found *wild*, as stated? Ah! there's the rub! They were not only *not* found wild, but were actually taken from gardens in Buck's Co. or the Jerseys, where the grape is well known, and of course highly esteemed; its original name having been long since lost, it is now known as the "Jersey grape," "Ruff grape," etc. The reader may say these are *mere assertions* and not proof. Well, to uncover the mystery a little further.

One-third of a bunch of grapes was sent to me by mail, fall of 1859, *for a name!* I pronounced them Delaware! Bunches were also at the same time handed to several members of the Philadelphia Horticultural Society. They too said they were Delaware! Then it was *attempted* to make it appear "that these bunches all came from different localities *in a wild state!*" In addition, we may say, without betraying private correspondence, we were told, that "they could direct us to at least twenty places where the Delaware grows wild—*as truly aboriginal as the rocks around it!*" Well, our curiosity was excited: we had a committee of three appointed by our "Fruit Growers' Association," to visit some of those localities; were willing and anxious to "spend time and money," and travel hundreds of miles in search

of such wonderful *wild grapes;* though we were at the same time confident it would end in a "wild goose chase." Still, there is a peculiar propensity in our nature to seek after and discover truth, be it "at the bottom of a well" or in the wilderness! It was, however, more to gratify a curiosity, as well as confirm our *un* belief in their *native* origin, or prove by ocular inspection that we were mistaken, and thus set the question at rest. Either result would have satisfied us equally well. Time and again have we applied to the parties, who so confidently asserted "That a class of wild grapes is growing on the head waters of the Delaware River, of which *they say* the Delaware grape is the type." Even aside from the pretence that it was growing wild, it was pronounced a true native American *botanically*, and also as "having that Muscat or *Pole-cat* aroma so peculiar to *American grapes!*"

And why, then, knowing so many localities where it is growing wild, did they not at least direct our steps to a few of those localities, where *'tis said* those luscious bunches were found? Yes, why? Echo answers, Why? Thus, our "seeking after knowledge under difficulties" was frustrated, and we are bound to believe there are no *wild* Delaware grapes in existence. We were even told, when inquiring about these localities, "that they had said all they wished to say on the subject." Did we touch them on a tender spot?

All the vines of this variety, though scattered thousands of miles over the country, can be traced to a single locality, the garden of Judge Provost, at Frenchtown, N. J., and to a time antecedent to the advent of any *American* grape superior to Alexander, when there was quite as much of a "grape mania" raging as now, but was then confined to foreign varieties—from 1820 to 1830. Except in rare instances, the exotic grape was a failure. Mildew, if not the sole cause, was at least the chief cause of failure. Then the Catawba and Isabella were discovered, and as a dernier resort, planted, and gradually spread over the country. Thus we are constrained to believe that the Delaware is one of the many varieties that were imported at that time from every climate where vines could be found; and by a long residence in the country, or from a natural or inherent hardiness, has withstood our variable climate, and now is acclimatized. Though a certain editor may say "we jump at conclusions," we nevertheless think the evidence will fully sustain us in calling it an exotic, a true *Vitis vinifera*, as much so as Black Hamburgh or Chasselas; at least until some more *reliable* proof is brought forth as to its American origin.

Do we give it up? Is your critic answered?
If not, then we shall have to increase the dose!

[It may be conceded that the "Delaware is *not* found in three different locations in a wild state," without deciding the main question at issue, the nativity of the Delaware; though, if it had been so found, there would, of course, have been an end to the controversy. The question must be decided, as we think, on internal evidence; but we leave it for the present in the hands of "A Buffalonian." We should be glad, however, to have Mr. Garber trace the Delaware "to a time antecedent to the advent of any *American* grape superior to Alexander," because, if he can do so clearly, he will present evidence to clear up this subject in the minds of many who are inclined to regard the Delaware as a native.—Ed.]

NOTES ON ROSES.

BY J. PENTLAND, BALTIMORE, MD.

The question has been so frequently put to me, "What are the names of the best new roses, or the best old varieties?" that I propose to answer some of the inquiries through the columns of your valuable journal, by your permission.

Before proceeding to reply, let me ask, What would you term the "best?" do you want the "best shape, or the best blooming, or the best growing rose?" I rather presume people want all three combined, which is certainly a rather difficult matter to obtain; for, as you well know, some of the best formed and most magnificent roses grown, bloom but once in the year, and are generally termed June Roses; others, again, of a class but little removed from the former, are called Autumnal Roses, or such as bloom twice in the season, June and September, or October; then we have the Hybrid Perpetuals, or those that (according to their name) should be constant bloomers, but I am sorry to say, that very many so called are any thing but constant; true, they are Hybrids, but the perpetual should be left out. Then there are Hybrid Chinas, and Hybrid Bourbons, and Hybrids without end, but a "rose by any other name will smell as sweet."

I shall only speak of such roses as I have, and have seen bloom; notes of such I made at the time they were in bloom, and it is truly astonishing the advance that has been made of late in the production of really fine roses; and yet there are many of the older varieties, known to nearly all lovers of the rose, (and who don't love a rose?) that I would not exchange for half the new ones sent out.

I received last winter some twenty or more of the newer roses of Europe, and not many of them have as yet been able to obtain sufficient strength to show their true qualities, either with regard to bloom or habit. Another year will determine that point, provided we get rain enough to keep them alive in this locality, for roses and every thing else are at a complete standstill, and the leaves of roses are wilted and shrivelling for want of rain. Roses (with us) planted out this spring, have not made any growth, and unless we get rain soon, hundreds of them must die unless water is convenient for irrigation.

Among the finest new roses that promise well is Altesse Imperiale, a very dark, glowing, velvety crimson and purple, of a good shape and size, and will be quite a favorite. Anna de Diesbach is a most beautifully formed, very large and distinct rose, of a brilliant rose-color. Ardoisée de Lyons is an extraordinarily large rose, of a very deep purple color, and will, I have no doubt, prove a splendid rose. My plants were very weak, consequently did not bloom very well. Comtesse Cécile de Chabrillant (what a name!) is a most beautiful satin rose, of exquisite shape, and large; a superb rose, without doubt. Virginale is of a pearly white, having the palest tint of flesh-color in the centre; it is not so double as some others, but it is beautiful in bud, and constant in bloom; it is now in bloom for the third time this season; it will be a great favorite, as its color is scarce among the Hybrid Perpetuals, Dr. Henon being the nearest approach to it. Reine de Cite is a very full and finely formed flower, of a clear rosy pink, and promises well. De la Mothe is a light and very brilliant crimson color, without that shade of purple that so

many have; it is a good standing color, and quite a distinct and good rose. Bouquet de Marie is another nearly white, with a light pink centre, a rose flowering in clusters; a nicely formed small rose. Armid, a brilliant rosy pink: the outer petals of this rose are a little paler; the foliage is very dense, and its habit is good; it is a very distinct and beautiful rose. These are the newest of the Hybrid Perpetuals that I can speak of at present knowingly. The following I will be able to speak of again: Eugene Appert, all my plants died; they were too weak to withstand the voyage. Lord Elgin promises well; the foliage is very fine. The following are highly spoken of as being very superior: Emperor de Maroc, a glowing velvety crimson; Eugene Alary, lilac rose; Anna Alexieff, bright rosy carmine; Joseph Vernet, pink; Le Mont Vesuve is said to be the best of the dark-colored ones; L'Oriflamme de St. Louis, something after the style of General Jacqueminot, its parent: with many others of the same class, too numerous to mention, without being able to speak knowingly of them and their qualities.

Of the new Bourbons there are very few as yet very distinct: Docteur Berthet has bloomed with me; it is a deep reddish purple, of good size, and free; Edith de Murat is a very pretty white rose, rather small, with a slight flesh tint; Octavie Fontaine promises to be a pure white, of good form and substance. Of the new Teas, I like Madame Joseph Halphin, a cream, or rather blush white, with a beautiful carmine tint on the outer edge of the petals; it is a good grower, and of first-rate form, and double; Madame Damaizin, buff, salmon tint; this is a distinct and beautiful new rose. Among the best of the newer Teas are the following: Madame Maurin, cream and fawn; Madame Barillet Deschamps, white cream, centre large and full, very fine; Louise de Savoie, pale sulphur yellow, good habit and large; but what can excel Gloire de Dijon among the Teas, grown upon its own roots? it is a most constant bloomer, and is every thing that is desirable in a rose. But there are many others that are really fine and desirable which I shall take occasion to speak of again. Of the older varieties of the Hybrid Perpetuals, the following are as yet scarce and very fine, and should be found in every garden: of dark colors, Triomphe des Beaux-Arts, velvety purple, not double; Bacchus, crimson, rather dwarf habit; Thomas Rivers, rosy pink, brilliant; Prince Noir, very dark purple; Prince Leon, light crimson, splendid; Pauline Lansezeur, violet red, a charming rose, constant bloomer; Monsieur Ravel, velvety scarlet, a first-rate rose; Monsieur de Montigny, rose, very brilliant, large, a splendid new rose; Ornement des Jardins, deep crimson, good form, not large, but double; General Brea, bright rose, very large and full; Empereur Napoleon III., velvety scarlet and crimson, shape imperfect; Duc de Malakoff, deep red; Ambroise Verschaffelt, deep rose and purple, petals thin; Triomphe de l'Exposition, rosy crimson; will always be a favorite, free bloomer; Triomphe de Montrouge, carmine, a superb color, not large, but well formed; Souvenir de la Reine d'Angleterre, bright rosy pink, a beautiful color, with very large petals—this is a noble rose; Reine de Denmark, pale rose and flesh—this is as large and fine a rose as blooms; Maria Portemer, plum, velvety, large and constant bloomer, fine; Louis Chaix, dark brilliant crimson, brighter than Geant des Batailles, fine form and good; Cardinal Patrizzi, velvety crimson, very dark—this, I think, is the best improvement upon all of this color; Evéque de Nimes, a brilliant scarlet crimson, a superb color, flowers very large and full, of beautiful shape and

splendid foliage—this is a very distinct and altogether beautiful new rose, and one of the best of the color. But I fear I have exceeded the bounds of propriety, and shall occupy more space than you can allow in one number of your magazine, and yet there remains a vast number of really beautiful and choice roses, both of old and new varieties of Hybrid Perpetuals, Bourbons, Teas, and Noisettes, which I must reserve for another occasion; and should I find time I would like to offer some remarks with regard to budded roses and roses grown upon their own roots.

[We shall be glad to have you continue the list; and hope you may soon find time for the remarks on budded roses, though we do not hesitate to say in advance, that they have not found much favor with us of late years.—Ed.]

NOTES ON PEACHES, PEARS, ETC.

BY ROBERT CHISOLM, BEAUFORT, S. C.

I NOTICE by the agricultural papers of Baltimore, that late spring frosts have lately cut off the peach crop so frequently that the growers of this fruit are disposed to give up its cultivation in despair. I do not know that I can suggest an infallible remedy, but think that I can offer a plan of treatment that will occasionally save a crop. It is simply in the fall or early in the winter, to pile up around the root of each peach-tree a quantity of manure of any kind, and let it remain there until all danger from late frosts has passed, and then this manure can be taken away and applied to any other crop. At the South, where poles are plentiful, four poles of any kind may be lightly notched together in the form of a square, like a log-house, around the root of the tree, to confine the manure, or, where more convenient, four boards may be tacked together and taken away when the manure is taken. It is a well-established fact, that trees, &c., bloom earliest in high, dry, sandy soils, because they are dry and warm, though the produce is comparatively small; while in low, moist, rich soils they are much more backward in blooming, yet the crop is more abundant. The object aimed at in the application of the manure is, to change the character of the soil, and thus escape the injury, and also the little heat generated by the decomposition of the manure, by ascending into the head of the tree, assists in warding off the injury. Sandy soils well manured and mulched become rich and moist, and therefore cool, and thus vegetation may be sufficiently backward to save the fruit. This fact may be useful for many other purposes, especially where very early crops of vegetables, &c., are desired, as paying better than later though larger ones. The above plan has been adopted with success by some of our growers of the sweet orange, and is recommended as worthy of a trial on a small scale at least.

Having a Peach orchard, that has heretofore been free from the curculio, invaded this season partially by that little pest, I have devoted more particular attention to its natural history, as far as opportunities offered. With us the curculio punctures the fruit at three different stages of its growth: first, just as the blossom drops, the fruit dropping also soon after; next, when the stone begins to harden, when the worm eats directly through the stone, and then the fruit drops. At these two steps the fallen fruit may be

gathered and the worms destroyed; but the third attack proves harder to conquer, for this takes place just as the fruit begins to swell, and then the worm eats out and drops on the ground before the fruit is ripe enough to be gathered or eaten. How this last attack is, to be successfully resisted I can not see, and therefore despair of ever getting rid of them in this flourishing and productive young orchard. My only hope of getting any more Peaches free from the curculio is, to start a new orchard at a distance from any old one; and this I intend to do next winter, finding an abundance of Peaches too great a luxury to be dispensed with. I do not know whether the curculio goes through one, two, or three generations each season, but having some of the worms safely housed in a vial of earth, will soon know how long it will be before they emerge as beetles or perfect insects.

Downing, in treating of pruning the Peach, recommends leaving a leaf-bud at the end of each shoot, in order that the fruit may ripen better. I do not know how true or necessary this may prove with you, but I can affirm, from many observations, that this is not necessary here, as the Peach will grow and ripen just as well when there is no leaf for several buds below it, and it stands alone at the end of the shoot.

I suppose that the quantities of Southern grown Peaches sold in your market have convinced you all that Clingstone Peaches are quite equal in every respect, and generally less acid with us than the Freestone varieties. With us they are generally preferred as both more juicy and vinous.

My orchard, at least the bearing trees, are entirely seedlings, and larger, handsomer, and finer fruit I have never either seen or tasted, and I have seen and tasted a few varieties in the course of my life. I have most of the best varieties in cultivation, but as the trees are young, and few have borne fruit, I can not draw any fair comparison, and, thanks to the curculio, may not be able to do so for years to come. My seedling trees were not grown for the fruit, but were from stones of fine fruit, and sown for stocks to bud upon, and as many used for this purpose as wanted, and these being left, were set out in my yard in the woods. Among them all there is not one single indifferent or inferior Clingstone, while the Freestone varieties are mostly of only medium quality, several partaking largely of the Nutmeg, and not one, in my opinion, a first-rate fruit. The Clingstones reproduce themselves with much more certainty, and can be generally depended upon, while most of the seedlings of the Freestone will prove medium sized, mealy, inferior fruit. The worm also injures the Clingstone Peaches much less, for while it eats all around the stone in the Freestone Peach, in the Clingstone a small part of one side of the fruit suffices for its support, and the worm cuts out and drops to the ground before the fruit is ripe, and then the Peach ripens.

I will send you another small box of Pears for samples, as several varieties are now fit to be gathered. Further experience and closer observation satisfy me that the Rousselet de Rheims, at least what I have as such, is the best Pear of its season, and indispensable in every orchard where a succession is desired. I think more of it each succeeding year. The samples that I sent you were much smaller than some that I gathered afterwards, but they were of fair average size. The Bonne d'Ezées were unusually small, owing to too many having been left on the tree, which is still small. It is an early and good bearer, and the fruit is very tender, delicate, and juicy, but it lacks flavor, in my opinion, and the wood cankers badly. I will send you, if not too ripe, a few larger specimens in this box. I send

you also a few Pears of a tree sent me by A. Leroy, of Angers, as the Beurré de Bollwiller, but there must be some mistake, as this proves a midsummer instead of a winter fruit. It proves a vigorous grower, early, and a too abundant bearer, and the fruit very tender, juicy, and delicately but not highly flavored. You will find it marked 133. The White (No. 10) and Grey (No. 76) Doyenné, I suppose that you will readily recognize. Both are larger, especially the Grey, than usual, but I am afraid the latter may prove knotty.

I send one or two samples of my Golden Beurré of Bilboa, (57,) but I am not certain whether it is really that Pear or the Buffam. I received both at the same time from the Parsons, in Flushing, and think that I lost by blight the latter. It grows very vigorously upon the Quince, and bears early, but too abundantly. Do tell which variety it is. Lastly, I send you a few Bartletts, which I suppose that you will readily recognize; therefore will not mark them. The Bartlett does well upon the Quince, bearing larger and earlier ripening fruit upon that stock than upon the Pear. I received, years ago, from Paris, a tree labelled Bonne Enté, whether rightly or not I can not say, but certainly a very different fruit from the White Doyenné, somewhat resembling the No. 133 (now sent) in shape, but about double its size, and now about ten or fourteen days since gone. I have not found it an early bearer, but when it did begin it proved too productive, like many others. What I mean by "too productive" is, that unless the fruit that the tree sets is heavily thinned out, it must prove both small and inferior. If you desire it, I will continue to send you samples and the results of my experience with them, remarking here, what may prove nothing new to old diggers like myself, but of importance to beginners, that without the aid of an experienced Pear-grower, it requires several years' crops of any new variety before it can be fully learned when the fruit ought to be gathered, and when it is ripe; though, with few exceptions, it requires less experience to teach the thumb when to know the latter state.

I would like to have sent you a sample or two of the "Delices de Charles Van Mons," but I thought that they would not keep until you would receive the box. It is, however, a very indifferent fruit, and the tree cankers about as badly as the Beurré d'Aremberg. I forgot to say above that the Bonne Enté is a very tender, juicy, and delicately flavored fruit, that just about fills up the interval between the last of the Rousselet de Rheims and the first of the Bartletts, and therefore I set a higher value upon it than I would were it to ripen at any other period when pears were plentiful.

[The application of manure to a dry, sandy soil, as proposed above, would have the effect of starting the buds sooner than would be the case without such application, and would, therefore, we should suppose, rather increase than lessen the evil complained of. A dry soil is warmer than a moist one, just as a rich soil is warmer than a poor one; but the application of a large body of manure to any soil would have the effect of making it warmer than the soil immediately surrounding it. In the above case, the application of the manure in the fall doubtless protects the soil from variations of temperature, and may thus be of use; the tree will be the better for the application in any event. Are you sure of the *third* attack of the curculio? We have been watching the little Turk very attentively, but have seen nothing like that. We shall have an article on this subject from Dr. Trimble soon, from which you will probably be able to gather something to assist you in

overcoming the curculio. The first lot of pears you sent came in good condition; the second arrived in the midst of our "heated term," and fared badly. Some of them were entirely gone, and others partly so. What you sent as Golden Beurré was not injured; but it is neither that nor the Buffam, but the Fulton, and as fine as we ever saw it. The Rousselet de Rheims was small but delicious. The Bonne d'Ezée very good. The Beurré de Bollwiller was not, of course, that variety, but we could make nothing of it; in the midst of its decay, however, it seemed to be a very fine pear. The White Doyenné was gone; the Grey Doyenné, however, was in good condition, and large, but gritty. The Bartlett was also gone. Of all you sent, the Rousselet de Rheims was best, and the Fulton next. We conclude, from the specimens sent, that you are in the midst of a grand pear region, and that you are profiting by it. How is it with Grapes?—Ed.]

ROSE CHAMPION GERANIUM.

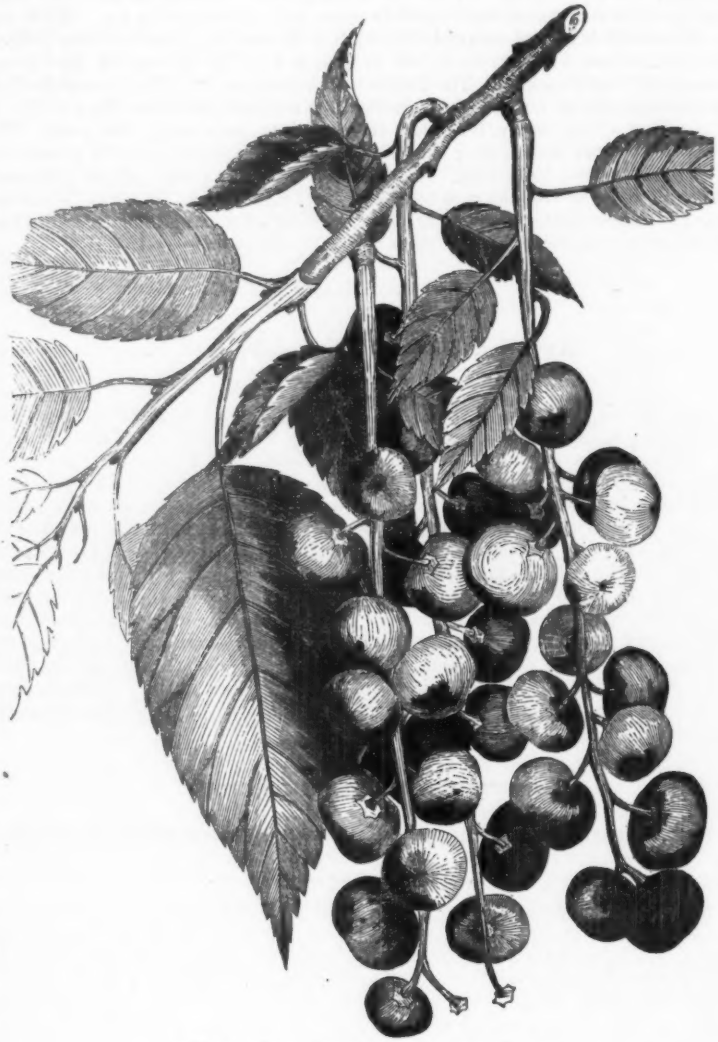
(See Frontispiece.)

Our frontispiece this month is a drawing of a fine American seedling Geranium, named *Rose Champion*, raised by Mr. Cranstoun of Hoboken, N. J. It has been exhibited several times about New York, and pronounced by good judges a first rate flower. We esteem it one of the very best of its class; indeed, we do not remember a rose-colored Geranium with so fine a truss or of more brilliant color. Our engraving was made from a truss of medium size, and conveys a good idea of it. The flower is well formed, the petals are of good substance, and the color is a clear bright pink, changing to white at the point of insertion. The flower stalk is stout, and the head large and round as a ball, the flowers opening in succession for a long time. The leaves are of medium size, with a circular shading of dark velvety green. The habit of the plant is compact and dwarf, and it is a good bloomer, coming into flower when only a few inches high. What disposition Mr. Cranstoun will make of it we do not know, but hope that by some means it will get abroad.

IMPROVEMENT AND DOMESTICATION OF THE WILD CHERRY.

BY D. L. ADAIR, HAWESVILLE, KY.

Most of our cultivated fruits are in an artificial state, and not natural forms, many of them unpalatable, and some of them, in their original condition, are even deleterious, if not poisonous, when taken into the stomach. The apple originated from the wild crab of Europe, and from the few kinds cultivated by the Romans the number of varieties has increased until in this country alone there are now more than 2,000. The peach had its origin, according to some authorities, in the bitter almond, as did also the apricot and nectarine. The pear, in its wild state, or even as cultivated three or four centuries ago, was seldom eaten except when cooked or made into some kind of conserves. The finer varieties of raspberry are the result of high



THE IMPROVED WILD CHERRY.

cultivation and reproduction by seeds, of a kind of raspberry no better than our common wild varieties; in fact, the Catawissa and several others are sports of the natives of our fields and forests.

Nearly all of our esteemed fruits are of foreign origin; for, although the forests of the United States abound in wild fruits which are susceptible of the same improvements, very little, if any, attention has been given to them; the principal reason of which is, that the time required and the uncertainty of the result are too great for individual enterprise; and if ever undertaken to any extent, must be under the fostering care of government, or through the enterprise of wealthy individuals or associations.

Nature, however, sometimes gives us strong hints of our neglect, in exhibiting an inclination to improve upon the original type. The foreign grapes have always refused to be naturalized to our climate, and it never occurred to the vine-growers of the country that their places could be supplied from our inferior wildings, until, by a freak of nature, the Catawba was produced from the *Vitis labrusca*. The Isabella and Diana followed, demonstrating in what direction we should look for our supply of grapes and wine. Now some of our nursery catalogues contain the names of more than a hundred native varieties, almost entirely superseding the foreign ones. And I have no doubt the day will come when a like improvement will take place in all of our wild fruits; for all of them sport more or less, in size, shape, flavor, and season, and it is only necessary to take advantage of these sports to obtain superior varieties, better suited to our soil and climate than those now in cultivation.

The cultivated cherry is a native of Asia Minor, with the exception of some of our sweet cherries, which sprung from the bitter Mazzard of Europe, is badly suited to the climate and soil of a large portion of our continent, and is subject to many diseases; so much so that in some large sections the trees are rarely planted, while the forests abound in the wild Virginian cherry, (*Cerasus Virginiana* of *Michaux; Cerasus serotina* of *De Candolle; Prunus Virginiana* of *Linnæus*, erroneously.) It bears small white flowers on long racemes, which appear in May, and are succeeded by purplish black drupes (fruit) about the size of a pea, of a sweetish, astringent, bitter taste, entirely unfit for the dessert, and is considered of little value except in flavoring liquors. The wood is used by cabinet-makers, and the bark is one of our most valued medicines in diseases of the lungs, throat, and chest. The tree is of rapid growth, attaining a large size, and as an ornamental tree is valuable.

It is to this tree that we must look for our supply of cherries. As uninviting as it seems, it is possible, even probable, if not almost certain, that a fruit may be produced from this species that will equal in size and quality our present cultivated varieties, and far surpass them in hardiness, healthiness, and thriftiness. As the first step in that direction, I herewith send you a drawing of the fruit of a tree in this neighborhood, which is a wide stride towards the perfection I predict. The tree came up in a fence-corner, about twenty years ago, on the farm of Dr. D. Davison, and since it was four or five years old has borne a crop of fruit every year. The tree is now over twenty inches in diameter three feet from the ground, at least sixty feet high, and drops its fruit over a circle at least forty feet in diameter. The fruit is three times as large as the average of wild cherries, and is entirely devoid of all bitterness and astringency in taste; and although I do

not profess to be a good judge of cherries, I pronounce it equal to the best cultivated cherry in flavor, and all who taste it pronounce the same judgment. It produced this year, I should think, at least fifteen, if not twenty, bushels of cherries, of the size shown in the drawing I send.

I have a number of seedlings from it, now one year old, from four to five feet high, and will plant more seed with the expectation of finally producing something still better.

[We believe Mr. Adair is on the right track. If the Patent Office, instead of wasting some fifty or sixty thousand dollars a year on seeds of which we already have more than enough, would devote a portion even of this sum to the improvement of our native plants, or the exploration of new regions of country in search of undiscovered plants, it would be doing some good, and entitle itself to the gratitude of the country. We wrote to the head of the Department on this subject some five or six years ago, but ineffectually, and nothing will probably ever be done in this way except by private liberality and enterprise.—Ed.]

THE PANSY OR HEARTSEASE—VIOLA TRICOLOR MAXIMA.

BY H. A. D., PHILADELPHIA.

This favorite flower has of late years been brought to great perfection, and blooms exhibited in April last before the Pennsylvania Horticultural Society, might well vie with the finest English varieties, such as we often see pictured in the London Horticultural publications.

Much depends, however, upon the cultivation and season; several articles have recently appeared in the Horticulturist on their cultivation, but as they all differ somewhat from my own practice, it may not be uninteresting to some of your numerous readers to briefly give my method.

The best season for sowing the seed is about the 20th of September, making another sowing about a month later for a succession. Where plants are desired for blooming in the greenhouse during the winter, the seed must be sown in August. Sow the seed carefully in shallow boxes or seed-pans; the soil should be rather light and sandy. Keep the boxes in a cold frame or greenhouse, shading them from a hot sun. Be careful not to over-water, as the young plants are very liable to damp off. As soon as the plants are large enough to handle, they should be picked out of the seed-pans or boxes into other boxes, setting them about two inches apart each way. They can remain in a cool greenhouse or sheltered frame until about the first of February. They are then potted into four-inch pots, and kept upon the front stage of a greenhouse until they are sufficiently established, and the weather becomes mild enough to remove them into cold frames, where they should be protected from the cold with sash, observing to give them plenty of air, when the weather is pleasant. Where extra fine flowers are desired, it will be necessary to give them another shift into five or six-inch pots. Two things are absolutely necessary in growing fine Pansies: *first*, to secure *good, reliable seed*, without which all your efforts will be unavailing; the other is, to give them the very best of cultivation. The soil to grow them in must be a rich compost of decomposed cow manure, leaf mould, and good

garden loam or sods, well rotted. The plants, when coming into bloom, must be frequently watered with clear liquid manure, which can be made of a solution of Peruvian guano, or stable manure with water, well stirred up, and allowed to settle before using. Observe not to make it too strong; as a weak solution frequently applied will be the most beneficial by the above means. I have my Pansies in their greatest perfection during the months of April, May, and June; and where great care is taken in shading, watering, etc., they may be continued much longer. Where plants are desired for planting out of doors, and later blooming, they can be left in the boxes, and set out early in the spring in well manured and deep dug ground, setting the plants about one foot apart each way. Many persons defer the sowing of Pansy seed until spring, and of consequence fail to produce good flowers, as the hot sun of June and July will soon cause the flowers to dwindle to one half their former size.

A PUBLIC PARK FOR BALTIMORE.

BY HOWARD DANIELS, NEW YORK.

Now that our large cities are provided with Rural Cemeteries on a large scale, which excel in beauty, magnitude, and embellishment, any of their European prototypes, and which are peculiarly American institutions, created under the most liberal laws, providing in every conceivable manner for their protection and perpetuation, it is natural that the next great step in rural progress should be in providing public Gardens and Parks for the people. The growing interest in such rural places is becoming quite general in the older cities of the Union, and is the greatest move yet made towards providing the masses with healthful exercise and instructive recreation. With our mode of managing municipal affairs, it is to be expected that grave errors will often be committed; that abuses will creep in; and that the final results will often be far below what they would have been, had the right men been selected to design and direct the improvements.

At Baltimore, a project has been on foot for a year or two, which, so far, has been conceived and conducted in such a far-seeing, wise, disinterested, and business-like manner, and with results so entirely satisfactory, that I propose to furnish a brief account of the same for the benefit of the citizens of such cities and towns as may be meditating on the ways and means for providing themselves with a public park.

In an ordinance for providing a system of City Railways, the company was required to provide more and better accommodations for the public at five cents, than the omnibuses had for six cents; and to pay also to the city one cent for each passenger carried, for the purpose of creating a fund for a public park. It is estimated that this "park-cent" (as it is called) will average, during the fifteen years of the grant, not less than one hundred thousand dollars per annum, making the city passenger railways just that much more valuable to the city of Baltimore than the similar grants in New York, Philadelphia, and Boston.

Thus the introduction of the City Passenger Railway system, which was considered an adjunct to a park, has not only served to enlarge the views of

the Baltimoreans on that subject, but has actually furnished the means for its purchase and adornment, without resorting to direct taxation. For the purpose of carrying this project into effect, a commission, composed of five gentlemen, who were selected for their integrity, and taste in rural affairs, was created, and clothed with power by the city authorities, to select and purchase a suitable site, or sites, and lay out the same as a public park. The first act of this commission was, to advertise for sites containing not less than five hundred acres. Seventeen sites were offered, eight of which came up to the requirements of the advertisement, embracing several hundred pieces of land; the owners in each case combining to present a plat of the required area. Each site was examined with a view to its special adaptation to the purposes of a park, which embraced a topographical survey of the territory sufficiently accurate to enable them to estimate the cost of preparing it for the purposes required—its water and wood, its diversity of scenery, and capacity for cheap and easy improvement.

The result of these examinations was the selection of Druid Hill, the property of Lloyd N. Rogers, Esq., embracing about five hundred and seventeen acres, at a cost of four hundred and ninety-seven thousand three hundred dollars, and located within five minutes' walk of two of the City Railway lines. The site is beautifully diversified by gentle hills of varied forms, connected by flattened ridges into groups, or irregular ranges, forming grand foregrounds, and broken and intricate middle-grounds and distances; one large eminence near the centre of the park, and at the rear of the mansion, being three hundred and sixty-six feet above tide—a hundred and fifty-one feet higher than the Hampden Reservoir, and nearly three times the altitude of Vista Rock, in the New York Central Park, and by far the highest point of land in the vicinity of Baltimore. This hill is clothed with a fine growth of old forest trees, and forms the great central feature of the place; commanding, as it does, a series of magnificent views of the city, the bay beyond, down to Kent Island and Annapolis; while to the eastward and westward, there is a succession of inland scenes of great beauty and diversity of character.

The valleys being broad and gentle in their undulations, furnish admirable sites for parade-grounds, play-grounds, &c., producing great breadth of effect in the landscape. As a whole, the grounds are characterized by greatness, distinctness, and strongly-marked divisions, conspiring to grandeur, rather than easy transitions and delicate flowing lines.

The late owner allowed the buildings, fences, &c., to go to decay; and, excepting the great pear orchards, the meadow, pasture, and a few fields cultivated for personal convenience rather than profit, the place has been neglected and allowed to grow up without restraint. This, though very bad farming, has greatly enhanced its value for a park by the growth of trees and underwood in many places, especially along the fence rows. The general healthiness of the trees and freedom from mutilation, are unusual so near a large city, which probably may be attributed to the pride of the late proprietor in protecting and conserving the property bequeathed to him from his ancestors. These grounds, although neglected (agriculturally) for a long time, are not a barren waste, that has to be reclaimed, and planted, and cultivated half a century before shade enough is provided to entice people from their homes in hot weather; but are now furnished with a broad, irregular belt of original forest, nearly encircling the park, and breaking irregu-

larly into masses and groups over the central portions, which has been preserved and fostered with jealous care by the late owner and his ancestors for a century and a half. To the arboriculturist, these grounds are particularly interesting for the great number and variety of large, healthy, and *park like* trees, among which are to be found scores of magnificent old oaks from twelve to fifteen feet in circumference, that would do credit to Windsor Great Park or Fontainebleau ; sometimes standing singly, at others having marshalled around them generations of descendants, forming groves of families ; numbers of Hickories from eight to eleven feet in circumference, and from sixty to ninety feet in height ; also gigantic Tulip trees, of which no European park can boast, that loom up here and there twenty to thirty feet above their neighbors, giving variety to the sky-lines and spirit to the groups. These giants of the forest, when allowed room to spread and develop themselves, make admirable park trees, having a robust, masculine character peculiar to themselves.

Of the other trees that flourish, the more conspicuous are Maples, Elms, Planes, Walnuts, Ash, and quite a variety of second and third-class trees and shrubs, together forming a greater variety of the plants indigenous to North America than is usually found in the same compass.

Scattered over the grounds are groups of grand old trees, in rich clustering characters, with finely rounded and flowing outlines, combined with lower trees and bushes of various hues, blending the lines of the masses with the soil from which they spring ; sometimes projecting boldly forward, forming indentations and breaks of ever-varying shapes and dimensions, with broad, deep glades of turf or low bushes intervening, forming living pictures with magical effects of light and shade.

Frequently the lines are continued in the most irregular and picturesque manner by the fence-rows, which, from long neglect, have grown up with perfect freedom into irregular belts and screens, dividing the domain into scenes of varied character. The central portion, in the immediate vicinity of the mansion, is more open, probably from having been planted with short-lived trees, like the Catalpa, the Lombardy Poplar, &c., which, having reached maturity, have died. This portion will require new plantations, and, occupying the higher grounds, demands, and is capable of receiving, the maximum amount of arboricultural decoration, forming, with other appropriate improvements, the grand central feature of the place.

Broad meadows, bordered by irregular groups of trees connected by dense thickets of wild and tangled underwood, climbers and vines feathering to the ground, and spreading irregularly into masses, which luxuriate in the most *negligent abandon;* the central portions enlivened by majestic old *specimen trees*, or small groups, form scenes of great *breadth* and *dignity*, such as are to be found in the best English parks.

Persons alive to the charms of a landscape will find at every move or turn new scenes bursting upon the vision ; the eye is often led a wanton chase down the long vistas terminating in some deeply embayed recess of the skirting woodland, or across the broad meadows checkered by the shadows of shrubs and single trees; or, arrested by the gorgeous coloring of a group in an old fence-row, follows it by degrees through its intricate forms and coloring, till lost in the general hue of the distant wood.

The coloring, too, is agreeable and harmonious ; at times, sombre and retiring ; at others, rich, deep, and gorgeous enough to satisfy the most vivid

imagination, such as Hickories, Tulip-trees, Sassafras, Dogwoods, Maples, Tupelos, and Liquidambers only produce. These fine pictorial effects, the harmonious grouping and blending of color, are the results of time and nature left unrestrained to work up the rough outlines of the original proprietors. With such material in abundance, it will be seen that, with the aid of a landscape artist to open a vista here, fill out a group there, and plant out an offensive object in another direction, Baltimore may in a year or so have a park that will not be equalled in the world.

In short, the site embraces a fine surface for ornamental treatment, abounding in a variety of undulations, gentle, graceful, and grand ; finely wooded portions forming a dense exterior belt of primitive growth ; groups and single trees diversifying the interior portions, and forming admirable park-like scenes ; fine springs of water to supply drinking fountains, and a small lake, and facilities for an abundant supply by artificial means for larger lakes and fountains at a trifling outlay ; all of which conspire to the making of a noble pleasure-ground in the shortest time, and with a comparatively small expenditure of money ; and if this project, so admirably commenced, is completed with improvements adapted to the wants and enjoyments of the public, conceived and executed in the spirit and genius of the place, the result will be a grand park, worthy of the Monumental City.

REVIEW OF THE GRAPE QUESTION.

BY A. S. FULLER.

Surely the people of the Quaker City are waking up in regard to the all-absorbing grape question. Besides giving us a score of articles in the several Horticultural journals, they have lately presented two small volumes, which we judge to be the crowning glory of the combined horticultural talent of that staid city.

"Bright on the Grape," is the title of the first of these productions. There seem to be four prominent features in this work : first, the author would impress the reader with the idea that he is offering a *new system* of grape-culture ; this is made apparent by the words "new system" and "*our system*," some fifteen times in the first six pages of the work ; second, that there is a special Fertilizer to be sold. Attention is called to this fact forty times in the body of the work, and a special notice on the last page ; "Price, $45 per ton." Third, that shallow planting is the great desideratum in grape culture, and the perfection of science, as applied to all horticultural pursuits. The fourth, and great feature, is originality, to which the author calls the special attention of the public, on page 10, where he claims to be the originator of the *detached and divided border for the vinery ;* "the alternate renewal plan has never before, we believe, been presented to the public, or practised in the vineyard, as a distinct and definite system, and may therefore be claimed as original."

We are informed, on page 6, in what this new system consists : "It is, in the main, a method of fruiting the vine on a single short cane with very short lateral branches, growing new wood from the main stem one year, and fruiting the next, dwarfing the vine by a definite rule of stopping and pruning, and renewing the entire wood of the vine (except a small portion of the main stem) every year."

Now, this appears all very well, excepting the loss of the crop every other year; for certainly, if a system of stopping and pruning is resorted to, a full crop can not be had every year. But when we read on page 8, we find an almost direct contradiction of the system of page 6. "The vine under this system is allowed to expend its whole strength, *wild rambling nature and all*, during one season, in the production of a new and perfect cane; the next season it is permitted to produce a full crop of fruit." Now, the question arises, what shall be considered a full crop of fruit? that we are not told, further than "all that the vine will perfect." But let us reflect a moment upon this point, and suppose we have a vine ten feet long and five-eighths of an inch in diameter, and a superficial surface of leaves exposed to the sun, that can elaborate a sufficient quantity of sap to produce a certain amount of fruit, varying somewhat according to the variety. The stem can carry nutriment only as the leaves call for it; and they can elaborate and prepare it as food only in proportion to the amount of surface exposed to the sun; therefore, a vine can not ripen but a certain amount, and do it well, giving us not only well-ripened grapes, but grapes containing the vinous and saccharine qualities in abundance, which can only be obtained by lessening the crop of any productive variety instead of endeavoring to increase it. The natural tendency of the vine, under cultivation, is to set more fruit than it is capable of perfecting, and to this fact we are indebted for the introduction of the various systems of pruning.

Let the system be what it will, says a celebrated writer, no vine can be allowed to bear but a certain amount of fruit with impunity, and when a vine has been once weakened by an excessive crop of fruit, it takes a long time, if ever, to restore it to its original vigor and health; this is so well known that it needs no further comment.

Various renewal systems have been given us from time to time; the long rod system of Hoare, and the short bow system of the Germans, and a host of others, each and all of which have succeeded, in certain localities, or certain varieties of vines, showing conclusively that one system and one kind of cultivation are not adapted to all countries and every variety of grape. The renewal system of Bright was in vogue in England, for vines under glass, in the beginning of the last century, as may be seen by consulting Miller's work, published 1731. He says, in speaking of wall culture of the vine, "These vines should not be forced every year, but with management they may be forced every other year, though it would be better if it were done only every third year; therefore, in order to have a full supply of fruit (*annually*), there should be a sufficient quantity of walling built, to contain as many vines as will be necessary for two or three years," &c. He then goes on to say, that we should grow the vine one year without fruit, to get a good strong cane, and the next year to fruit it; after which, cut it down, &c.

This plan has been put in practice by many since, but it has been found both expensive and troublesome, and at variance with the general character of the constitution of the vine. The only place where this system would be advantageous is, where vines are forced in pots, (where the roots are easily controlled,) and exhausted by fruiting; in such cases, if the vines were very scarce, it might be worth while to renew the vine from the same root, provided its vital energies were not too much exhausted.

Special Fertilizers.—Of the value of the special fertilizer mentioned, we

know nothing ; but, if we are to judge from experience, we shall be obliged to look upon it with distrust.

All the special manures have been lauded as wonderful, and almost miraculous in their effects, but none have stood the test of time so well as good barn-yard or slaughter-house manure, composted with muck, leaves, or old sods. That an equal quantity of these materials mixed together, and thoroughly rotted, before using, will produce healthy vines, and as perfect fruit as any other fertilizer, has been proved for ages. That other manures will produce a like result, if care is used in applying them, can not be denied. But we know that all concentrated manures need much care in their application, while, on the contrary, the simple compost may be used with impunity by the most unskilful gardener.

Shallow Planting.—*Very* shallow planting is urged by Mr. Bright, as of great importance in grape-culture, as well as in all other branches of horticulture. While we do not believe in *very deep* planting, we also look upon *very shallow* planting as a thing to be avoided in grape-culture as an evil, the consequences of which are more disastrous than that of very deep planting.

The advocates of shallow, or *surface* planting, as we must call it, say that, if the roots of the vine are allowed to penetrate the cold, wet subsoil, that it will languish, and the roots will decay, the vine become sickly, &c. In the first place, vines should never be planted upon soil that has a cold, wet subsoil, for in such cases they will fail, whether planted on the surface, and soil heaped over them, or a foot below. If soil is properly prepared, say at least two feet deep, there will be found to be little danger of the roots remaining too deep in the soil, even if they were placed there at first ; for it is well known to every one who has examined a grape-root, that the great tendency of the working roots is to the surface, and if they are allowed to take this position, and hold it, the lower roots having nothing to do, soon decay.

Now these surface roots are exposed to every change of weather ; if it is dry, they feel it first ; if a warm shower comes, and soon after great heat, the tender rootlets are exposed to such a degree of heat that they are scalded, the effect of which is soon seen by the shrinking of the fruit and drooping of the leaves. In cool climates this will not often take place ; but then, again, the roots, when very near the surface, are exposed to the cold, which often destroys them.

Keeping the working roots of the vine several inches below the surface, was considered in olden times a thing that *must be* accomplished ; and to effect this end, the operation of ablaqueating the vines was resorted to, which we find described in all the ancient works on agriculture. To be sure, they had a somewhat warmer and drier climate than we have ; and, again, they never thought of planting vines on ground that had not been thoroughly *pastinated* (pulverized) to the depth of from two to four feet. This operation of ablaqueation was the removing of the surface soil around the stock every autumn, and cutting off all the surface roots close to the main stem, to the depth of six to eighteen inches ; some writers recommending more, and others less—differing according to locality, soil, &c.—but all speak of its importance.

In this latitude no working root of the vine should be allowed to come within six inches of the surface, and at the south a still greater depth will be required for perfect security against the changes of the climate.

Our best and most experienced vine-growers at the present day under-

stand the importance of having a dry porous soil, and then compel the vine roots to work below, instead of on the surface.

We asked Mr. Schneike, of Cincinnati, (who is certainly authority on this question,) what was his object in trenching his ground three feet deep, and putting the surface soil at least two feet below the surface. His answer was, that he wanted the food for his vines below the surface, because he wanted the roots to work there, and not on the surface. Mulching is recommended by Mr. Bright, as a protection for the roots in surface planting. This will answer very well for vines or other plants the first season ; but to continue it for an indefinite period, and have it successful, is very doubtful, besides being very troublesome. It is making a safe harbor for all kinds of vermin; and further, the most that can be said of it is, that it is the most slovenly mode of cultivation in appearance that can be recommended.

Mr. Bright claims you, Mr. Editor, as well as Marshall P. Wilder and P. Barry, as favoring this system of surface planting ; but if either you or they have ever practised or commended the system, we have failed to discover it.

(*To be continued.*)

THE THOMERY SYSTEM APPLIED TO GRAPERIES.

BY JOHN EGAN, NEW BRIGHTON, S. I.

Some time ago, on looking over an old work on Fruits, called the "American Orchardist," by William Kenrick, I found therein a description of the management of the Grape-vine as practised at Thomery in France, a modification of which is, I think, peculiarly adapted for cold Graperies. This consists principally of planting the vines at a distance of about eight or ten feet from the front wall, according to the width of the house, in fact, as near the centre of the house as possible, and of each year laying down or burying a portion of the vine in its approach to its destined position at the front wall. By this means an extraordinary quantity of root is formed, and situated near the surface, which is a great object in the culture of the vine.

Many advantages are certain to follow from this mode of planting, and they are so apparent that I think it quite unnecessary to enumerate them.

Now I have a word to say against planting *at* the front wall, and will show its disadvantages. When planted so near the junction of the borders, the roots have a greater tendency to penetrate to the outside than to ramify through that rich bed prepared for them inside ; and if any person doubts this assertion, I only ask him to examine his inside border, and if he finds a great quantity of roots there, he is one of the lucky ones. It is a well-known fact that the roots of vines can be brought and kept near the surface by mulching, but its appearance is unsightly, and considered to be favorable to mildew, if on the inside. This being the case, the other mode will be adopted in preference. Again, much time and labor are lost in the application of moisture, as well as expense in the use of fertilizing substances, which do not come in contact with roots. Notwithstanding all this, I am not an advocate for inside borders only, but I think that the inside border is of most importance : by the time it is well matted with roots, there are sufficient to extend outside.

EDITOR'S TABLE.

To Contributors and others.

Communications, Letters, Catalogues, Periodicals, &c., intended for the perusal of the Editor, and packages by Express, should be directed to the care of C. M. Saxton, 25 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

OUR "*Chapter of Visits*," and some other things of our own, have been omitted this month, in order to make room for our correspondents, some of whom, however, must still have patience.

THE PHONOPHORUS.—It is known to many of our readers that we have the inexpressible misfortune to be deaf: anything, therefore, which makes more possible to us some of the enjoyments of social intercourse we are inclined to regard with peculiar favor. We have tried all manner of helps to hearing, and with more or less satisfaction, but the Phonophorus, or sound conductor, is infinitely superior to them all. One has been placed in Dr. Dunbar's church, in New York, and we went up there to try it. Mr. Pardee, who was with us, read from the pulpit, and we heard distinctly every word he uttered. We have one in a basket form in our room, and conversation has become comparatively easy and pleasant. We mention the subject here that any of our readers who may be afflicted with deafness may avail themselves of its benefits. It was invented by Mr. David D. Stelle, of New Brunswick, N. J.

ISABELLA WINE, &c.—We are indebted to Mr. Hite for samples of Isabella and Elderberry wines. The latter is made in imitation of claret, but is very "stout," and not intended for children. The Isabella is a good wine, and does credit to Mr. Hite's skill.

THE ROSE RADISH.—The editor of the *Rural New Yorker*, in copying our article on this Radish, remarks that our engraving is not a good one, as he has grown it; and in this he is no doubt right, for we have seen it very much as he figures it, grown from seeds purchased at the stores, and we think it has degenerated. Some of our frontispieces have been open to criticism, but this is not true of our portrait of the Rose Radish; we assure our *Rural* friend that this is a very accurate and fair representation of the Radish as we grew it from the original seed, except that in the colored edition the color should be brighter. The *Rural* agrees with us in regard to its excellence.

THE BARTLETT STRAWBERRY.—We had intended to give this fine fruit as a frontispiece to our September number; but the plate not having been done to our satisfaction, we returned it to the engraver, who failed to get it ready in time. It will appear in October, with our description.

CATARACT WASHING MACHINE.—This is another labor-saving machine which we can confidently recommend to our country cousins It is cheap, durable, and efficient, and will contribute largely to lessen the drudgery of washing.

THE ROSE SLUG.—A correspondent writes: "If you will publish something that will save my *roses* from the deliberate slaughter of these murderous pests, which have nearly destroyed my large and choice varieties of *beauties*, I shall deem the information cheaply purchased by paying for half a dozen copies. Tobacco, and smoke, and sulphur, and lime, and plaster, and *woman's tears*, and men's imprecations, are alike harmless to exorcise those miscreants which 'plague mankind.'" A hard case, certainly. We have heard of all these remedies before, except "woman's tears." Where *they* fail, the case is almost hopeless; but you might nevertheless try a mixture of whale-oil soap and lime; and if you wet the foliage *thoroughly*, and repeat the dose two or three times, you can hardly fail to succeed. You might also try the "Gishurst Compound."

THE DROUGHT.—Mr. Philips, writing from Edwards' Dépôt, Miss., says:

"Have not had rain on centre of plantation enough to wet bottom of furrow since 22d April. Ther. has stood at 105 deg. in my piazza, and generally at 98 to over 100 deg. Never thus before. The thermometer is not correct by four degrees, yet is the same, and on same nail for years. I have three others, all show same degree in comparison of elevation. My plantation extends from river bank (Big Black) to creek bank, (14 miles—Baker's Creek on maps,) my house about midway of plantation. While we have pretty good showers on the river—again on the creek—none here for good. Health of country good."

WE shall hereafter devote a portion of our time to outside business, such as laying out and improving grounds, vineyards, orchards, &c., the construction of greenhouses, graperies, etc., and preparing plans. We can also be consulted in reference to the selection of grape-vines, trees, shrubs, etc., at a moderate charge.

BROOKLYN HORTICULTURAL SOCIETY.—The Fall Exhibition of this Society will be held at the Athenæum, Brooklyn, on the 19th, 20th, and 21st of September. A fine display is anticipated, which we hope may be fully realized.

DUNN'S MARKING PENCIL.—Messrs. Thorburn & Co. inform us that they have ordered this pencil, and we are glad to hear it. Something of the kind has long been needed, and we hope it may prove what it has been represented.

GRAPE ROT.—This dreaded disease has made its appearance here, being confined, so far as we have observed, to the Catawba and Isabella, but mostly to the former. We know of no remedy, but think it advisable to cut out the diseased berries, which sometimes serves as a check.

READING ROAD NURSERY.—It will be perceived, by our advertising columns, that Mr. Heaver proposes to sell out, this fall, at auction. This will present a good opportunity for those in search of nursery stock.

OSCAR STRAWBERRY.—This is a new and very promising Strawberry, specimens of which were sent us by Mr. Hite, and subsequently, August 2d, by Mr. Linsley. It is a large, firm-fleshed, and highly flavored berry, and has a prolonged season. We desire to see more of it, however, before giving it a place.

GAS REFUSE.—Being curious in such matters, we recently examined, in operation, Coon's Portable Gas Generator, which we found to be the neatest and best thing of the kind we have yet seen. The gas being generated partly from animal matter, it occurred to us that the refuse might be of some value as a fertilizer; and this, on trial, proved to be so, though to what extent we can not yet say. Those who use this gas generator would do well to experiment with the refuse, instead of throwing it away.

A NEW PEST.—A. P. Cumings, Esq., has just shown us some grape-vine leaves, very much injured by an insect which we do not remember to have seen before. At first we supposed it to be an immature thrip, but a closer scrutiny disclosed a wingless insect of a very different character. We have kept them for further study.

THE NEW ENGLANDER.—The August number of this able quarterly has been received. Contents: 1. A Hymn and its Author—Augustus L. Hillhouse—by Dr. Bacon. 2. Reflex Benefits of the Clerical Office—a Letter from a Country Clergyman to his depending Brethren, by Rev. Andrew C. Denison. 3. The New Planets, by Prof. Daniel Kirkwood. 4. The Baptists in Connecticut, by Rev. Robert C. Learned. 5. The Fine Arts: their proper Sphere, and the Sources of excellence therein, by George McClelland. 6. The Congregational Polity and a Biblical Theology, by Rev. J. P. Thompson. 7. Constitutional History of Athenian Democracy, by Prof. W. A. Larned. 8. Original Sin: the State of the Question, by Prof. Geo. P. Fisher. 9. A Half Century of Foreign Missions, by Rev. Leonard Bacon, D. D. 10. The Princeton Review on Dr. Taylor and the Edwardean Theology. 11. Discourse Commemorative of Charles Goodyear, the Inventor, by Rev. S. W. S. Dutton, D. D. 12. Notices of Books.

ATLANTIC MONTHLY.—The August number is a good one, though not quite as well sustained as usual. The following are its contents: The Carnival of the Romantic—a Legend of Maryland—Prince Adeb—Eleusinia—Victor and Jacqueline—Midsummer—Tobacco—Shakespeare done into French—The Poet's Longing—A Journey in Sicily—The Professor's Story—Anno Domini 1860—Darwin on the Origin of Species—Reviews and Literary Notices—Recent American Publications.

CATALOGUES AND BOOKS RECEIVED.

Descriptive Catalogue of Vines, etc., with Explanatory Remarks and Indications for Cultivation. By C. W. Grant. Post Office address, Iona, near Peekskill, Westchester Co., N. Y.—This is a new, enlarged, and much improved edition, containing a great deal of valuable information, besides its descriptive matter.

Meehan's Wholesale List of Dutch Flower Roots, for the Fall of 1860. T. Meehan, Wissahicken and Germantown Nurseries, Germantown, Pa.—We would caution our readers against buying auction bulbs, while they can get the leading kinds, under name, at the moderate prices named in this catalogue.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Roses, Evergreens, Bulbous Roots, Greenhouse and Hedge Plants, &c., cultivated and for sale at the Fruitland Nurseries, Augusta, Ga., by P. J. Berckmans.—This is intended more especially to meet the wants of the South, but selections can be made for any section.

Descriptive Catalogue of Hardy Ornamental Trees, Shrubs, Roses, etc., cultivated and for sale at the Mount Hope Nurseries, Rochester, New York. Ellwanger & Barry, Proprietors.—A neat and well-arranged catalogue, including all the more recent novelties worth growing.

Supplementary Catalogue of Grape-Vines, Clematis, &c. Cherry Hill Nurseries, West Chester, Pa. Hoopes & Brother, Proprietors.

Descriptive Catalogue of Fruits cultivated and for sale at the Toledo Nurseries, by A. Fahnestock & Sons, Toledo, Ohio.

Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, Vines, Plants, &c., cultivated by A. Fahnestock & Sons, Toledo, Ohio.

Central Nurseries, York, Pa. Edward J. Evans & Co.'s Trade Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, Bedding Plants, &c., for Autumn, 1860, and Spring, 1861.

Wholesale Catalogue of the Cherry Hill Nurseries, West Chester, Pa. Hoopes & Brother, Proprietors.

Chester County (Pa.) Agricultural Exhibition, to be held in the Borough of West Chester, on Friday and Saturday, Oct. 5th and 6th, 1860.

Monthly Record of the Rensselaer County Agricultural and Manufacturer's Society. Published by the Society. August, 1860.

Report of the Commissioners appointed by the Governor of Ohio, to Investigate the Massachusetts Cattle Disease, Pleuro-Pneumonia.—We are indebted to Mr. Klippart for this interesting Report, which contains about all that is known of this dreaded and fatal disease.

Science, the true Basis of Education.—An interesting and suggestive Address, by Charles Arthur Ely, delivered before the Board of Trustees of the College of California, at its first Commencement at Oatland, on the 14th of June, 1860.

The Fruit-Preserver's Manual. By S. Culver.

The Phonographic Journal. Conducted by Elias Longley, Cincinnati.—This is in phonographic characters.

All the Year Round.—The September number well sustains the character of this sterling serial.

Outlines of Chemico-Hygiene and Medicine; or, The Application of Chemical Results to the Preservation of Health and Cure of Disease. By A. Dallas, C. H., C. M. Toronto, Maclear & Co., 1860.

The Illinois Teacher: devoted to Education, Science, and Free Schools. August, 1860.

Correspondence.

PETER B. MEAD, ESQ.:—*Sir:* In an article on inside detached and divided vine-borders, published in the May number of the HORTICULTURIST, Mr. Bright states that "neither the 'Book of the Garden,' by Mackintosh, nor any other English work or journal, has, to my knowledge, described or suggested inside divided vine-borders." Now you will find that Hoare, in his work on the vine, republished in New York in 1847, strongly insists on the border being entirely *inside* the house, and, on page 79, says: "Carry the walls up *hollow* as high as the adjacent soil;" and, on page 180, across the inside border build "solid walls, for the purpose of keeping the roots of the vines separate from each other," same as Mr. Bright. Again, in Loudon's "Suburban Horticulturist," ed. 1842, there is a section of a vinery with *inside* border raised above the ground level; and in Johnson's "Gardener," ed. 1853, vol. iii., page 80, there is a section of a vinery with inside border, in which the Rev. B. Cooper for many years raised an abundant and an early crop of grapes. Yours truly,

Hoboken, July 7, 1860. DR. D. BENSON.

[Mr. Bright has already conceded the point of originality in regard to inside borders; and it is quite possible for him to have made an inside border without having seen the works of Hoare and Johnson. It is probable that Mr. Bright may have something further to say on the subject.—ED.]

P. B. MEAD, ESQ.:—*Dear Sir:* In answer to your inquiries touching the mildew upon the gooseberry, I would first state, that about eight years since I purchased three dozen of the best named English varieties—say, Melling's Crown Bob, Framer's Roaring Lion, Caper's Top Sawyer, Dixon's Golden Yellow, Wainman's Ocean, Whitesmith, Ironmonger, and others of equal celebrity at that time—and planted them in the best localities in my garden. For five years they grew beautifully, always heavily laden with blossoms; but when the fruit grew to

the size of a pea it commenced mildewing, and during the period of five years I could not get one ripe berry, as they would burst and fall prematurely to the ground. I tried every remedy that could be suggested, but my efforts proved "fruitless." I had planted a cherry currant-bush in close proximity to one bush, and it mildewed the currants, as well as also the leaves of it. Such were the alarming effects of the pest, that I determined to dig them up and "throw them to the dogs," when a lady of Westchester county (whose name I am not at liberty to mention at this time, neither am I privileged to state the process, which costs nothing but a little labor) begged permission to try an experiment on my bushes—which was about three years since—and the result is, that during all that time my bushes have been laden with most delicious fruit, each coming up to its name.

As the lady in question is extremely modest in her aspirations, she has been unwilling to place her discovery at the disposal of the public until she was *thoroughly* convinced of its efficacy. I think, as far as my judgment extends, we have sufficient test to pronounce it a perfect specific for the mildew upon the gooseberry. Since the reception of your note, I have gained her consent to request the proprietors of the HORTICULTURIST to appoint a committee to visit my garden and examine for themselves, and report accordingly. The berries at present are almost full grown, and promise as well as former crops, and when ripe I shall take great pleasure in presenting specimens to you of each variety: at the same time, if I am released from the injunction of secresy, to impart the process, to be laid before the public through the columns of the HORTICULTURIST.

Morrisania, June 27th, 1860. GEO. H. HITE.

[Having heard much talk of Mr. Hite's gooseberries, and their freedom from mildew, we wrote to him, asking for information, in response to which we received the above. We have visited his garden, and found his gooseberries to be just as represented, free from all signs of mildew, and in other respects very fine. We did not learn how the result was effected, but the subject will go into the hands of a committee for examination and report. If there is anything in it, we do not believe it is for the interest of any of the parties to keep it a secret; and if it is anything that ought to be paid for, we are willing to pay for it. Let us first know what it is.—ED.]

EDITOR OF THE HORTICULTURIST:—*Sir:* In reference to the remarks on *Lilium Philadelphicum*, in this month's HORTICULTURIST, permit me to state that my bulbs of the same, when fully grown, produce from 17 to above 20 blossoms; but, last fall, I added to a cube of about 18 inches of good garden soil a gallon or more of crushed charcoal, and planted therein three fine bulbs of L. Philadelphicum; one of these bore 48 blossoms, another about the same number, and the third 54. They made a magnificent group for a considerable time, as the blossoms were successively developed.

I use charcoal with much advantage to plants in general. It gives brilliancy to my tulips, and increases the size and number of bulbs and blossoms. I have frequently five blossoms from one bulb, and two and three blossoms from one bulb is very common.

New Harmony, Ind., August 7th, 1860. MARGARET CHAPPELLSMITH.

[Your lilies must have been a beautiful sight. We have heretofore strongly recommended the use of pulverized charcoal, and do so again; for pot-plants it has a special value.—ED.]

EDITOR HORTICULTURIST, NEW YORK:—*Dear Sir:* I notice, at page 377 of your last number, that reference is made, by "A Buffalonian," to the report circulated last autumn, and then inserted by you and others, that "Delaware grapes had been found in three different locations in a wild state." Your Buffalo friend does not appear to be posted as to the latest intelligence on the subject. If he will refer to the columns of the HORTICULTURIST, and to the "Germantown Telegraph," where the *canard* first started, or to any member of the Pennsylvania Wine-Growers' Association, of which Dr. J. B. Garber is a distinguished member, he

will find that a thorough investigation of the matter took place, ending in a complete refutation of the silly fabrication, and in proving positively that not one Delaware vine existed but what was traceable to the vineyard of foreign vines imported by Judge Prevost, of Frenchtown, N. J. I visited the town of Delaware, Ohio, last September, and, to my great surprise, I found but one Delaware vine in bearing, and that was trained against the south side of Mr. Campbell's stone house, and was so sheltered that any of the Chasselas grapes would mature their fruit in the same position. The evidence of its origin, and the character of the plant itself, are so conclusive as to its foreign character, that I did not suppose any man of careful observation could entertain a present doubt on the subject. I well knew, when I first presented my views, that *self-interest* would be startled when the public has been so egregiously misled; but I also knew that one year's observations would confirm the truth of my position. I long since prepared an article specifying the distinct characteristics of the foreign species, *Vitis vinifera*, when contrasted with our indigenous species; whereby it is proven that, while the Delaware *has all the attributes of the foreign species, it does not possess one solitary attribute of our native species.* I have also been gathering other facts and evidence, but have deferred their publication, awaiting the general opportunity for investigation which another fruiting season would afford to the public at large. Yours respectfully,

Flushing, August 13th, 1860. WM. R. PRINCE.

[The above was received after Mr. Garber's article was in type. It is too bad to place "A Buffalonian" between two fires, but we suppose he can stand it. When Mr. Prince gets all his facts and evidence together, we shall be glad to have them. Meantime, we shall give the subject further investigation.—ED.]

GISHURST COMPOUND.—ED. HORT. :—*Dear Sir:* Allow me to say a few words in reference to this invaluable compound. I find it up to the mark with everything I have tried it upon. I have no mealy-bug, so can't say whether it will kill that or not. Allow me to suggest the necessity, and also the propriety—for instance, in a house of vines, or any other plants affected either with red spider, mildew, &c.—to first thoroughly syringe the house through with water, so that the whole of the foliage gets thoroughly wetted; when this is completed, then take the prescribed *quantum sufficit*, and syringe away. You will save just one half by this process, because, the foliage being already wet, the compound runs freely all over every portion of the leaves.

GARDENERS, *please take a note of this*, and if Mr. Elliott, of 31 John street, who sells this "*Gishurst Compound*," will tell his purchasers to *syringe first*, and *compound* afterwards, they won't cry out much about the price, for the hint will pocket them just fifty per cent.

FOX MEADOW.

[Thus far our correspondence, as well as our experience, has been in favor of this compound, and we believe it to be a really valuable preparation. If any have tried it without good results, we should be glad to hear from them too. Our object is to get at its real merits.—ED.]

GISHURST'S COMPOUND.—It is to be supposed that every one who has tried the "Compound" will report his success till the Editor of the HORTICULTURIST will say, "It's enough," as Dr. Lindley did, in the "Gardener's Chronicle," on the same subject. I have tried it, too, for the aphis on roses, and have found it effectual. I turned the small plants upside down, and dipped them in the solution, (two ounces to a gallon;) the bugs were immediately paralyzed, and turned black within twenty-four hours. Syringing can hardly be as effectual, besides being very expensive, as there is much waste, and the price certainly awful. Our friends across the Atlantic must appreciate an exterminator for the vermin, else they would not venture to ask such a price. I have also tried the Pyrethron (insect powder), but with no satisfaction.

CUCUMBER RAISING.—Last spring my cucumbers in hotbeds were attacked by some vermin

of the centipede tribe, which destroyed a great many vines. They were in the main stalk, immediately above and below the surface of the ground, and went down to the very extreme points of the roots. Who knows a remedy? A series of articles on the forcing of vegetables in hotbeds, from some experienced suburban market-gardener, would be desirable, at least by

Fort Wayne, Ind., July 21, 1860. Your humble servant, M.

[More testimony in favor of the Gishurst Compound, and nearly enough, we think, to place it entirely outside the list of "humbugs." The price, we are glad to know, has been materially reduced, and this is necessary to bring it into general use. We suppose your "centipede" to be the "squash borer," and it is difficult to destroy. The mischief is done before you are made aware of it. The only remedy we know is to place some offensive substance around the vines when they are young. This we have done with varying success, using tar, gas lime, sulphur, &c.; diluted gas lime seemed to give the best results. You have the Gishurst Compound, and might try that. The series of articles you allude to are much needed, and we have made provision for them.—ED.]

MR. EDITOR: Some insects are eating my Exotic Grapes. It is done in the night-time, and I have failed to detect them. They commence usually on the top of the bunch, with a small puncture. They began with my early crop in the forcing-house, and now have commenced in the cold vinery, which is ripening. A neighbor says, crickets, as they work in the night. I can find nothing in Loudon, nor in the Grape Books, about it. Can you tell me what it is, and give me a remedy? Truly yours, F. W.

Newark, N. J.

[We can not imagine, from your description, what the insect is. Can you not send us a specimen? It may be a beetle, but it is not the cricket.—ED.]

HORTICULTURAL SOCIETIES, ETC.

KENTUCKY HORTICULTURAL SOCIETY.—We are indebted to Thomas S. Kennedy, Esq., the energetic President of this Society, for an account of the last three *weekly* exhibitions, which we are compelled to condense more than we should if we could get them "one at a time." We ask the members of societies about New York to note the fact, that these are *weekly* exhibitions, and then ask themselves if they are doing their duty, either to themselves or the public. We wish the members of the Kentucky Society, and all others like them, the success they deserve. The proceedings and exhibitions of remote societies, aside from their own interest, afford our readers the means of judging of the local value of particular kinds of fruits, and their time of ripening in various parts of the country; and this, of itself, gives them a general interest.

The following articles were exhibited on Saturday, July 14th:

Carey, Peter, & Carey exhibited Jargonelle, Dearborn's Seedling, Osband's Summer, and Harvard Pears; Red Astrachan and Early Harvest Apples; with Apples for a name.

Jacob Johnston exhibited Early Harvest, Early Joe, Gravenstein, and *Carolina* Red June Apples.

Dr. J. C. Johnston exhibited a French Apple of fine size and tempting appearance, unknown in this locality.

James Stevens exhibited Summer Queen Apples, Germantown and Dearborn's Seedling Pears, Imperial Gage Plums, and two plates of Plums for a name.

Lawrence Young exhibited Pears and Plums for a name.

Thomas S. Kennedy exhibited *Herr's Striped* June Apples.

W. H. Duncan exhibited Duane's Purple Plums.

H. S. Duncan exhibited Early Tillotson Peaches, Osband's Summer and Bloodgood Pears, Early *Smith's Orleans* Plums, Philadelphia Queen, Sweet Bough, and Carolina Red June Apples.

Wm. Heaver, of Cincinnati, exhibited ten varieties of Apples, viz: Early Joe, Duchess of Oldenburg, Early Bough, Early Strawberry, Summer Rose, Red Astrachan, Early Harvest, William's Favorite, (two samples, one grown on dwarf trees, and one variety not named.)

Wm. Daitrick, of Indiana, Hoosier Red Apple, Transcendent Crab, and Apples for a name.

Bissell & Salter, of New York, exhibited a beautiful specimen of German White Muscat Grapes.

Joseph Ashton, of Indiana, exhibited Dearborn's Seedling and Jargonelle Pears, and Pears for a name.

Flowers graced the tables in a few bouquets—one of which, exhibited by Henry Nanz, was exceedingly beautiful.

On Saturday, July 21, another exhibition was held, from which we gather the following:

The largest display was with Pears, of which nine exhibiters had the following varieties, named in the order of their merit and quality, according to the specimens on the tables: Osband's Summer, Tyson, Bloodgood, Dearborn's Seedling, Harvard, Jargonelle, Doyenné d'Eté, Lawrence's Summer, (not quite ripe,) and Bartlett, (premature.)

There were ten kinds of Peaches exhibited by five different growers, viz: Early York, July Seedling, Very's Seedling, Early Crawford, Early Tillotson, Cole's Early Red, Yellow Alberge, Yellow Rareripe, and Hill's Superb Jersey. The Superb Jersey was the most splendid exhibited.

In spite of the *curculio*, there was a very fine display of Plums. Six growers exhibited no less than ten different kinds of Plums, nearly all of which were perfect, although traces of lime on the fruit gave evidence of the watchful care that had been necessary to save them from destruction. The kinds were: Red Gage, Imperial Gage, Smith's Orleans, Bradshaw's Columbia, Lombard, McLaughlin, Duane's Purple, a red seedling from Indiana, Seedling Apricots, and several kinds of Chickasaw Plums, of which a very large red variety from Tennessee was regarded by the Society as worthy of special attention and careful cultivation.

There were nine kinds of Apples exhibited, some of which were of the very best quality, and worthy of more extended culture. The varieties were: Carolina Red June, Summer Queen, Gravenstein, Black's Annette, Red Striped June, Indiana Seedling, Summer Hagloe, Keswick Codling, and an apple which was planted for the Summer Queen, but it proves to be superior to that variety in several respects, and, for the want of the true name, which is unknown, it has been called, for several years past, Cary's Favorite.

On Saturday, July 28th, the following fruits were on the tables:

Peaches, 9 exhibiters.—Early York, (very fine,) Early Tillotson, Crawford's Early, (large,) Birkenmayer's July, Longworth's July, Hill's Superb Jersey, (monstrous,) Cooledge's Favorite, Grosse Mignonne, Vanzant's Superb, Yellow Alberge, Red Rareripe, Teton de Venus, and two unnamed Seedlings.

Apples, 8 exhibiters.—Keswick Codling, (worthless,) Summer Hagloe, Early Harvest, Carnation, Alexander, (immense size,) Finley, (a splendid local fruit,) Summer Queen, Summer Pearmain, Gravenstein, Shaker's Summer, (local, very superior,) Transcendent Crab, and four unknown varieties.

Pears, 7 exhibiters.—Tyson, (delicious,) Flemish Beauty, Rostiezer, (not ripe,) Bartlett, White Doyenné, St. Ghislain, Doyenné d'Eté, Green Beurré.

Plums, 15 exhibiters.—Washington, Imperial Gage, Red Gage, Yellow Gage, Yellow Egg, Columbia, Duane's Purple, Bradshaw, McLaughlin, Reine Claude, Lombard, Smith's Orleans, and four varieties unknown.

Grapes.—Black Hamburgh and Victoria Hamburgh, from Messrs. C. P. Bissell & Salter, of Rochester, N. Y.

Mr. Kennedy informs us: "The fruits exhibited at the weekly shows are sold at auction, at 11 o'clock, unless otherwise desired by the exhibiter, who has the privilege of withdrawing his

contribution after the sale. No entrance or admittance fees are charged. The expenses of the exhibitions are paid by the retaining of twenty-five per cent. of the gross sales by the Society; the balance of the sales is paid in cash to the owners of the fruits and *bouquets*, of which the florists in the vicinity always furnish a very fine collection. The prices generally obtained at these sales are quite satisfactory to the contributors. In the sale of the fruit on the foregoing list, one plateful, containing about eight or nine peaches, (Hill's Superb Jersey,) sold for $7 50. Other kinds of peaches sold for prices ranging from one dollar to three dollars per dozen.

GENESEE VALLEY HORTICULTURAL SOCIETY.—This Society held an exhibition in Rochester on Friday, June 22d. We are indebted to the Secretary, Mr. C. W. Seelye, for an account of it, which we have been compelled to condense as follows:

The display of fruits and flowers was pronounced the most magnificent ever made here at this season of the year. Large collections of Roses were presented by Messrs. Ellwanger & Barry, A. Frost & Co., J. Donnellan & Co., and C. W. Seelye.

Fine specimens of plants in pots were exhibited by S. Mathews, Esq., and Ellwanger & Barry.

Messrs. Ellwanger & Barry, Hooker, Farley, & Co., H. E. Hooker & Co., C. W. Seelye, and A. Frost & Co., presented extensive collections of Strawberries.

Ellwanger & Barry and A. Frost & Co. made most magnificent displays of Cut Flowers of Herbaceous Plants.

Besides the above, were a great number of interesting but smaller entries.

A large quantitity of bouquets were in competition, and well-grown specimens of Grapes in pots were presented by S. Mathews and A. Frost & Co.

Mr. W. H. H. Barton presented a dozen bottles of his *Isabella* wine, which he has branded *Port Genesee*, and for which he has already acquired quite a reputation.

The prize offered for the best six pot plants was awarded to S. Mathews, Esq. Among them were beautiful plants of *Clerodendron fragrans*, *Stephanotis floribunda*, *Ixora grandiflora*, and *Begonia rex*.

Table Bouquets.—The 1st prize was awarded to A. Frost & Co.; 2d, to C. W. Seelye.

Hand Bouquets.—1st prize to A. Frost & Co.; 2d, Ellwanger & Barry.

Hand Bouquets made from flowers grown in open ground.—The prize for these was awarded to C. J. Mills & Co.

Hanging Baskets.—1st prize, Mrs. Dr. Ripley; 2d, C. J. Ryan & Co.

Herbaceous Plants.—Best collection, Ellwanger & Barry; 2d best collection, A. Frost & Co.

Roses.—Best collection, Ellwanger & Barry; 2d best collection, A. Frost & Co. Best 25 varieties, Ellwanger & Barry. Best 12 varieties, A. Frost & Co. Best 6 Moss, A. Frost & Co.

Strawberries.—Best collection, Ellwanger & Barry; 2d best, Hooker, Farley, & Co. Best 6 varieties, Ellwanger & Barry, for Wilson's Albany, Trollope's Victoria, Triomphe de Gand, Scott's Seedling, Brighton Pine, and Genesee. Best dish of Strawberries, H. E. Hooker & Co., for Triomphe de Gand.

Cherries.—Best collection, Ellwanger & Barry; 2d best, A. Frost & Co. Best quart of Cherries, A. Frost & Co., for Coe's Transparent.

Exotic Grapes.—Best three bunches, S. Mathews, for Black Hamburgh. Best specimen exotic Grapes in pots, S. Mathews.

Beets.—Best six, Geo. Cooper.

Lettuce.—Best six heads, C. F. Crossman.

Radishes.—Best three bunches, Geo. Cooper.

Cucumbers.—Best three specimens, Thos. McGill.

Onions.—Best three bunches, Geo. Cooper.

In the evening, the Hall was thronged with visitors until a late hour; and good music, luscious ripe strawberries and ice-cream, did not have the effect of rapidly dissipating the crowd.

ST. PAUL HORTICULTURAL SOCIETY.—This young Society recently held its first public exhibition at St. Paul, and they seem to have had a good time. The secretary, Mr. Hewson, sends us the following account of it:

The Horticultural Exhibition was far more extensive and beautiful than could be expected, and gave rich promise of the future. Strangers and citizens were aqually surprised and delighted at the magnificence of the floral display, as well as the fine specimens of our fruits and vegetables.

The Balsams, Delphiniums, Fuchsias, Pelargoniums, Geraniums, Petunias, Phloxes, Pinks, Pansies, and Verbenas were much admired. The exhibition of Cut Flowers, Greenhouse Plants, Wild Flowers, and Roses was also very fine.

The strawberries exhibited by W. H. Jarvis, M. D. Clark, and Dr. A. E. Ames, of the Wilson's Albany, McAvoy, and Hovey's Seedling, were too tempting and luscious to remain untasted during the day. We have often seen larger specimens, but none of more exquisite flavor. The red, white, and black currants exhibited by Alx. Buchanan, T. M. Smith, and W. H. Jarvis, respectively, were excellent; the gooseberries, by W. H. Jarvis and J. W. Selby, were the largest we ever saw. There were also fine specimens of red and black raspberries, by Mrs. H. L. Moss. Mr. P. W. Nichols exhibited a limb thickly hung with Siberian Crab Apples.

In vegetables, the rhubarb exhibited by Mr. M. D. Clark had the largest stalks, and took the first premium. The specimens by M. H. Jarvis, J. W. Selby, and T. M. Smith, were not far behind, and so nearly equal, that the Committee could not agree as to which was entitled to the second premium. The cucumbers by Mr. Clark and Mr. Mitchell (gardener for Judge Nelson) took the first and second premiums. Mrs. C. W. Borup took the first premium on tomatoes. There was also an excellent show of lettuce, radishes, cabbages, "kohl rabi," peas, beets, cauliflowers, carrots, turnips, beans, onions, corn, &c.

The following is a list of the premiums awarded:

Balsams.—Mrs. Daniel Rohrer, best display, $1.50.

Delphiniums, Perennial.—L. M. Ford & Co., best three varieties, $1.

Fuchsias.—Dr. A. E. Ames, best three grown plants in bloom, $1. L. M. Ford, second best, 50c. Dr. A. E. Ames, best three varieties in bloom, $1. L. M. Ford & Co., second best three, 50c.

Pelargoniums.—Mrs. C. W. Borup, best three grown plants in bloom, $1. Dr. A. E. Ames, second best, 50c. Dr. A. E. Ames, best three varieties, $1.

Geraniums.—Mrs. C. W. Borup, best three varieties in pots, $1. Dr. A. E. Ames, second best, 50c. Mrs. C. W. Borup, best grown specimen, $1. Dr. A. E. Ames, second best, 50c.

Petunias.—Mr. John S. Prince, best three named varieties, $1. L. M. Ford & Co., best named specimen plant, $1. A. Buchanan, best seedling raised by exhibiter, $1. D. C. Greenleaf, 2d, 50c. A. Buchanan, best three, $1. D. C. Greenleaf, second best, 50c. A. Buchanan, best display, $1. D. C. Greenleaf, second, 50c.

Phloxes.—D. C. Greenleaf, best three varieties perennial, $1.

Pinks.—Mrs. C. W. Borup, best three varieties florist's pinks, $1. A. Buchanan, second best, 50c. L. M. Ford & Co., best display, $1. D. C. Greenleaf, second best, 50c.

Pansies.—Dr. A. E. Ames, best three seedlings, $1. Mrs. J. W. Shelby, second best, 50c. D. C. Greenleaf, best display, $1. Mrs. C. W. Borup, second display, 50c.

Verbenas.—Mr. John S. Prince, best six named varieties, $1. D. C. Greenleaf, best display 25 varieties, $1.

Greenhouse Plants.—Mrs. C. W. Borup, best three specimens greenhouse plants in pots, $1.

L. M. Ford & Co., best and largest display of greenhouse plants, one of a variety, $5. Dr A. E. Ames, second best, $3.

Cut Flowers.—D. C. Greenleaf, best display, 59 varieties. $1. Mrs. John S. Prince, second best, 50c. Dr. A. E. Ames, best vase bouquet cultivated flowers, $1. L. M. Ford & Co., second best, 50c. L. M. Ford & Co., best hand bouquet, $1. D. C. Greenleaf, second best, 50c. Mrs. J. W. Selby, best basket, $1. L. M. Ford & Co., second best, 50c. Mrs. C. W. Borup, best display cut dahlias, $1. Mrs. John S. Prince, second best, 50c. Capt. N. J. T. Dana, best display Canterbury Bells, $1. L. M. Ford & Co., best mammoth bouquet of Sweet Williams, $1. Wm. Hansen, best mammoth pyramid of cut flowers, $1.

Wild Flowers.—Mrs. M. D. Clark, best basket cut flowers, $1. A. Schmedlin, best vase bouquet, $1. Miss Ellen Hawke, best hand bouquet, $1. D. C. Greenleaf, best display, $1.

Roses.—Dr. A. E. Ames, best three varieties in pots, $1. D. C. Greenleaf, best 10 varieties cut roses, $1.

Ornamental Design.—L. M. Ford & Co., best ornamental design in flowers, $1.

Strawberries.—W. H. Jarvis, 1st premium, Wilson's Albany, $1. M. D. Clark, 2d, McAvoy, 50c. Dr. A. E. Ames, 1st, Hovey's Seedling, $1.

Currants.—Alex. Buchanan, 1st premium, Red Currant, $1. Truman M. Smith, 2d, 50c. Alex. Buchanan, 1st, White, $1. Truman M. Smith, 2d, 50c. W. H. Jarvis, 1st, Black, $1. Alex. Buchanan, 2d, 50c.

Gooseberries.—W. H. Jarvis, 1st premium, Houghton's Seedling, $1; J. W. Selby, 2d, English, 50c.

Raspberries.—Mrs. H. L. Moss, 1st premium, Red and Black, $1.

Apples.—P. W. Nichols, 1st premium, Siberion Crab, $1.

Rhubarb.—M. D. Clark, best 12 stalks, $1 (Mammoth Cahoon, Goliath and Victoria); W. H. Jarvis, 2d, J. W. Selby, 2d, T. M. Smith, 2d (the committee were unable to decide as to the merit of the above), L. M. Ford, 2d, for the best display of 6 kinds, 50c.

Lettuce.—Wm. Endon, best six heads, $1; J. W. Selby, 2d best, 50.

Radishes.—M. D. Clark, best three bunches, $1; L. M. Ford, 2d, 50c.

Cucumbers.—M. D. Clark, best pair, $1; S. Mitchell, (Gardener to Judge Nelson,) 2d best, 50c. M. D. Clark, best display, $1; S. Mitchell, 2d best, 50c.

Cabbages.—W. H. Jarvis, best six heads, $1; W. Endon, 2d, 50c.

Kohl Rabi.—W. Endon, best six heads, $1.

Peas.—M. D. Clark, best peck Dan O'Rourke; W. Endon, 2d, 50c.

Beets.—S. Mitchell, (gardener to Judge Nelson,) best bunch 5, $1; W. Endon, 2d, 50c.

Cauliflowers.—M. D. Clark, best three heads, $1; Mrs. C. W. Borup, 2d, 50c.

Carrots.—M. D. Clark, best three bunches, $1; Wm. Endon, 2d, 50c.

Turnips.—M. D. Clark, best bunch, $1.

Tomatoes.—Mrs. C. W. Borup, best 6, $1; W. Endon, 2d, unripe, 50c.

Beans.—Stephen Hewson, best, $1; W. H. Jarvis, 2d Wm. Endon, 2d, committee not able to decide which.

Onions.—Wm. Endon, best bunch, $1.

Corn.—N. J. T. Dana, best stalk, $1; J. Nicols, 2d, J. W. Selby, 2d, committe unable to decide which.

Holland Spinach.—N. J. T. Dana, best, $1.

PROGRESSIVE GARDENER'S SOCIETY.—We continue our extracts from the proceedings of this Society. The following is a continuation of the subject of Manures:

Stockhardt, in his field lectures, relates the experience of a Saxon farmer who had for many years made use of two marsh plants, reed mace and club rush, for manuring, the first of which proved a powerful manure, and the second had no manuring energy at all.

Constituents.	*Reed Mace.*	*Club Rush.*
Organic substances,	950	980
Nitrogen therein,	6	5½
Inorganic substances,	50	20
Potash and Soda,	10¾	¾
Lime and Magnesia,	16	4½
Phosphoric Acid,	2¾	1
Silica,	4	11

The organic, or humus-forming substances, and nitrogen, it is seen, are about the same in both plants, but, on the other hand, the reed mace contains sixteen times the quantity of alkalies, nearly four times more lime, and three times more phosphoric acid than the club rush. What is true of these two plants is also true of straw; its value lies chiefly in its minerals. Johnston gives the analysis of several fertile soils celebrated for yielding successive crops of corn without manure. These soils, as the analysis shows, are supplied by nature with all the minerals which plants require, though of course, from long cropping without manure, they are almost entirely destitute of humus. One of the most fertile Belgian soils contained only 0.447, or less than half per cent. of vegetable matter. Such a soil would continue to sustain crops without manure until some one or more of the mineral elements was exhausted, and then its fertility would be again restored by the addition of the specific ingredients wanted.

The Essay being concluded—

R. R. SCOTT.—This subject had been proposed by me, as it was one of the most important topics connected with gardening or farming. A speaker at the course of Agricultural Lectures, last February, at New Haven, had opened his discourse by saying that the three great principles on which success in cultivation depended, were first, manure, second, manure, and third and lastly, manure. This, if correctly reported, seemed very crude, and no doubt was easily understood and appreciated by the reading public and his very popular audience; but without desiring to detract from the standing of the speaker as a farmer, I would say that this trite statement did not satisfy me. While manure is essential, it is not everything. We must have something in the shape of soil for the manure to act upon, and plants which are sustained by the soil and acted upon by the constituents of the soil in conjunction with manure. The Essay just read has so fully met my expectations, that a few remarks I had intended to offer are rendered superfluous; so entirely does the ideas of Prof. Stephens, as to the utility and value of barn-yard manure, when properly treated, agree with my own, that I am relieved from any anxiety on that head. As to the meaning and signification of the term manure, which no less a personage than Baron Von Liebig regards as indefinite and proper to be discarded from the vocabulary of all intelligent farmers, I would say that it appears a good, useful, and expressive term, and worthy of being retained. I mention this because that, like the opinion or dicta of other great men, Liebig's recommendation has already met with a seconder in Dr. John A. Warder, of Cincinnati, who, in presenting an official report to the Horticultural Society of that city, concurs in Liebig's views, and favors the idea that the term is not appropriate; providing always that he be correctly reported, and he claims to speak in a final manner, when he does speak. I am opposed to the condemnation of this old Anglo-Saxon word, which comes to us with a good derivation, and is one of the most useful terms in common use by the cultivator, and preferred by him to the more scientific terms, more in the line of the chemist, and with which he does not desire to interfere.

The French writers have a word equivalent to this; the term *engrais*, translated by our word manure; while they have another for fermenting or barn-yard manure, *famier*, which is equivalent to our word dung. The word muck has even a good foundation, as it will be seen by referring to your dictionaries, meaning enriching matter.

It is very true, however, that in agricultural phraseology too indefinite a meaning has been

conferred on the term manure. Chaptal, a reliable French writer, says, under the general head of manures are comprehended all those substances which, existing in the atmosphere or combining with the soil, can be drawn in by the organs of plants and contribute to the progress of vegetation. This definition agrees precisely with that laid down in the Essay just read. But Chaptal, at the same time, desires to limit the too extensive use of the word, for he adds: "The salts which also serve as manures, are imbibed by the pores of the plants, and serve to stimulate vegetation." "By comprehending all these substances under the generic term of manures, too extensive a signification is given to the word."

He then divides these matters into nutritive and stimulating manures. Here he is again at issue with Liebig, who says: "The beneficial influence of *gypsum*, and many other salts, has been compared to that of aromatics which increase the activity of the human stomach and intestines, and give a tone to the system, but plants do not contain nerves. No substance can possibly cause their leaves to appropriate a greater quantity of carbon from the atmosphere when the other constituents required are wanting."

Now, as Professor Stephens has used the term stimulating in reference to guano, I shall be pleased to have him explain more fully his ideas whether there is a possibility of a plant being stimulated, as we generally understand that term.

If, however, the term manure be applicable to lime, potash, soda, and other such substances, it is equally applicable to burnt clay, water, and even to air itself. Salt also is spoken of as a manure, and gypsum. Salt, however, is used by practical men for its mechanical action in retaining moisture and counteracting the disastrous effects of drought. I shall not at this time enter into the field of the mineral theory, where organic and inorganic manures are contesting their claims. Liebig's theory has several able critics in this country, and time will doubtless throw ample light on the principles involved; in the meantime, with such appliances, as street refuse, stable dung, and cow manure, with a little muck, and compost prepared from refuse vegetable matter, the farmer and the gardener may perchance drive their legitimate, but precarious business, while Lawes and Liebig discuss their peculiar theories and experiments. We have in addition to these home products, guano, that wonderful deposit, worth $40 per ton, which is capable of manuring eight acres, and the supply of which is not yet at all exhausted. Nor do we lose sight of our superphosphates, bones, and meat composts, pure ground bones, bones treated simply with sulphuric acid, manipulated guano, Swan Island guano, Leinau's fertilizer, Ta Feu, poudrette, phosphatic guano, and phuine, by the producer said to be one of the best manufactured concentrated manures. Still more recently we have a grape fertilizer, professing to supply the special elements required for the grape plant; and from the great rage on the subject of grapes, we sincerely hope, for the credit of its introducer, that it may be equal to all that is professed of it. Time only can test this.

I should like to enter much more fully into a notice of these numerous matters now so freely manufactured for the cultivator, but their critical examination is not the work of a day or a year, and not, I regret, within the scope of a plain gardener like myself. I should offer an apology for my occupation of the time of the meeting, but the subject is one in which I felt some interest.

WILLIAM SAUNDERS.—With reference to Dr. Warder's remarks referred to by the last speaker, I may say that I do not, from a perusal of them, as reported in the "*Cincinnatus*," consider them at all final, but leaving the subject as much confused as before. There are several passages in it to me quite objectionable, but to which I will not at present allude. The statement of the old ground that we must know the constituents of the plant, and the constituents of soil, has nothing final in it. I should like to know from Prof. Stephens, what is his opinion of this part of the question, since chemists themselves admit that, although they may analyze a handful of soil, the result is no reliable, practical guide to the cultivator.

JAMES JONES.—Regarding the Essay as embracing and explaining all that it is important for us to know, relative to the principle of the action of manure on the soil, I need only say that the ideas of Prof. Stephens and my own entirely agree with respect to the relative value of barn-yard manure. I have been using that for years, at the rate of 40 loads to the acre, and it answers every purpose. I have pursued a regular rotation of garden crops, and cropped heavily, and my productions have been seen by many of my friends here. I commence with potatoes and cabbages, and continue some crops requiring no special application of manure. I have also employed concentrated manures with immediate and good effects.

Dr. George Pepper Norris desired to offer a few words, having had some little experience in the application of manures. While he concurred in the opinion that barn-yard manure was one of the best materials where available and not too expensive, he could recommend night soil as much more advantageous in some instances. This might be procured in the vicinity of any town; and although many persons were afraid of the crops being burned by its application, fresh from the cellars, he had proved such fears to be groundless. He applied it from the cart fresh from the cellar, and raised early and vigorous crops. His experience was principally in truck farming, as pursued on the Neck, and his soil sandy, in the vicinity of Wilmington. He was disappointed not to hear this recommended by the gentleman who had last spoken.

James Jones, in reply to Dr. Norris's remarks, would say, that if he could obtain night soil conveniently, he would use it; one benefit would result. Weeds would not be so plentiful; but he did not fear the weeds; his purpose would be to look out for the crops, and let the weeds look out for themselves.

C. H. Miller thought that the value of night soil had been stated in the Essay.

Prof. STEPHENS.—The analyses quoted by me in the Essay were given with a view to show the general principles on which the value of night soil depends. Much of the value of such materials will depend on the manner in which they are prepared. While barn-yard manure requires to be thoroughly fermented, before its fertilizing properties become available to the plants, night soil is immediately active.

WALTER ELDER.—As this subject lies at the root of all good culture, you should have it fully discussed; every member should state the result of his practice and observation, and bring all the virtues of the different fertilizing materials to light. I will contribute my mite with some data. We should cultivate enlarged views; look over the garden fence upon the farm, and consider the value of the products. My own soul was once so small as to bury my brains in a flower-pot, and to think that a garden with a few glass structures was the universe; but now I see what a big place the world is. It is generally conceded by cultivators, that barn-yard manure is the best manure for common use; and as it is the droppings of several species of animals, together with straw, I think it better than that of any one specie, when applied to clayey soils and heavy loams in its long fresh state. It warms them, renders them more porous, and allows the roots of rapid-growing plants to enter them more freely. Indian corn, potatoes, melons, squashes, &c., seem to do best upon heavy soils with fresh barn-yard manure; but for sandy and light soils it is best when well rotted, and in that state has a more immediate effect on crops in general. For potting plants it should be almost a mould, and be mixed many months with the soil before being used. Ligneous manures I think must be most beneficial to trees and other woody plants, although seldom ever applied to them. Leaf mould is almost indispensable in pot culture, and the mould at the bottom of the wood pile is better; wood ashes leached, are used extensively upon sandy soils, produce good crops, and solidify such soils; waste charcoal is valuable in pot culture, but too expensive for general use; sawdust is all converted into manure around the city of Edinburgh, Scotland, by bedding cows and horses with it. Tan-bark is also there converted into manures by composting it with other materials, and nursery-

men grow the hardier rhododendrons and azaleas in beds out-doors, made up with two thirds of decayed tan-bark and one-third garden loam. Salt as manure hastens vegetation, and gives earlier maturation to plants than any other kind of manure. I have used night soil fresh from the walls of this city, upon acres; and for onions, beets, radishes, turnips, and carrots, I have never found anything to equal it for early and heavy crops. Poudrette has a similar effect, but these rich matters make cabbage "clubfooted," and do not suit potatoes. The low meadows around Edinburgh, into which the sewers of the city empty, yield the greatest crop of grass to be found; they are divided into lots of three and four acres by ditches which lead the liquid manure around them, and are flooded with it at pleasure; they are let yearly at auction to dairymen. The grasses are fit to cut by the time that grasses elsewhere begin to grow in the spring; they give seven cuttings knee high, and so heavy that the scythe can hardly carry the swath through. The market gardeners of Leith surpass all their contemporaries more inland in the production of early and fine vegetables by the use of sea-weed they gather off the beach after a high tide or storm. Upon the flat meadows of Long Island Sound, between Harlem and Throgg's Neck, the grass, after being flooded by a "spring tide," grows up at a wonderful rate; and asparagus of the finest quality springs up spontaneously all over these. Country people empty the brine of their meat and fish barrels in spring upon their asparagus beds, which is the only manure they get, and they yield plentiful crops. I have used both salt, lime, and urine around the base of peach and plum trees for the cut-worm, which always keeps them off and invigorates the trees.

Calcareous Manures.—I think that lime is best when mixed with other materials. The farmers in the sandy districts of New Jersey who use marl largely, think it best when mixed with lime or barn-yard manure. Plaster of Paris is best for sandy soils, and benefits all kinds of crops grown upon them; it is the best thing for clover I ever used. Road-earth is best when composted with other materials, after lying in a heap and being frequently turned in a year. The same is true of coal ashes; street-sweepings are also best after lying in a heap twelve months and turned over twice. I have heard it often asserted that the ashes of the peat used in Ireland as fuel and called turf, contains more fertilizing matter than any other thing six times its bulk. A relative fifteen miles from Londonderry informs me that the ashes of the "peat" was the best thing he ever used for his vineries, peach and nectarine houses, and also for his wall trees. He exchanged stable manure for it among the people. Now, we all know how valuable peat is in pot culture, and the older the better; so we may well presume that there must be a virtue in the ashes also. An English friend of mine from Wiltshire used to tell me that straw was used for fire to cook with, and the farmers there manured their lands with burned turf, (sod;) they had turf plows that turned up the turf and made it into rolls three yards long; it was put into large heaps and set fire to, and after burning some weeks into a mould, it was spread upon the land, and produced a good crop. The moorland farmers in Scotland do the same thing, and they think that double the quantity of grass grows where the ashes of the heather falls, when they burn it upon their pastures in spring.

I once top-dressed a lawn with grains from John Taylor's brewery at Albany, N. Y., and it produced a wonderful effect upon the grass. At the same place I manured an acre with hops from the brewery, that had lain in a large heap and was well fermented; I then sowed parsnips upon it; the leaves all over grew five feet high. The late Jesse Buel and James Wilson, as well as other cultivators of note, came to view them, and said they never saw anything like them. A patch adjoining was manured with yeast from the brewery, and yielded a very heavy crop of carrots.

[*To be continued.*]

THE BARTLETT STRAWBERRY.

for THE HORTICULTURIST.

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